

INSTALLATION MANUAL

SIMPLICITY⁺





Minivator Simplicity⁺ installation manual Smart Seat

Pre-installation check list

- 1** Check that all of the required components are available. You should have **7 boxes**. These are colour coded so that identification of any handed components is simple. The table below shows the colour of the boxes that you require.

COMPONENT	Left hand	Right hand
Smart Seat base	PURPLE	GREEN
Smart Seat back	BLACK	
Power pack		
Fitting kit		
Smart Seat Upholstery		
Bottom Track Section		
Top Track Section		

e.g. a **left hand** lift comprises **1 purple** and **6 black boxes**; a **right hand** lift comprises **1 green** and **6 black boxes**.

2 Installation tools required

- Loading toggle
- Shorting links
- 10mm spanner
- 10mm socket
- Narrow nosed pliers
- 13mm socket
- 17mm socket
- Side cutters
- 8mm spanner
- 13mm spanner
- 17mm spanner
- No. 2 Pozi-drive
- 2.5mm Allen key
- 3mm Allen key
- 4mm Allen key
- 5mm Allen key
- 6mm Allen key (ball ended)
- 8mm Allen key
- Spirit level
- Handlamp
- Hacksaw
- Tin snips

Note: The installation engineer must check with Minivator for the latest installation manual issue number.

**Issue No of this manual is 2011-1
ORIGINAL LANGUAGE ENGLISH**

Track assembly

Before beginning the installation please ensure that the track is the required length. Refer to Appendix 5 for details.

Items required:

- Fit kit
 - Splice bars x 3
 - Track ends cap x 1
 - Red bag
 - 8 x bolts
 - 4 x grub screws
 - Final limit stops x 1
 - End stops x 1
 - Mounting feet x 3
- Top track section x 1
- Bottom track section x 1

Tools required:

- 2.5mm Allen key
- 3mm Allen key
- 6mm Allen key
- 13mm Spanner
- Hacksaw
- Tin snips

- 1** Position the bottom section of the track (2m) on the stairs with the splice holes at the top (**Figure 1**). Regardless of the hand of the lift the rack should always be on the left hand side of the track when looking up the stairs.
- 2** Bolt in the splice bars to the bottom section of track extrusion (**Figure 2**) using 2 grub screws for the top splice bar and the 4 bolts in the bottom splice bars (from the red fittings bag).



Figure 1

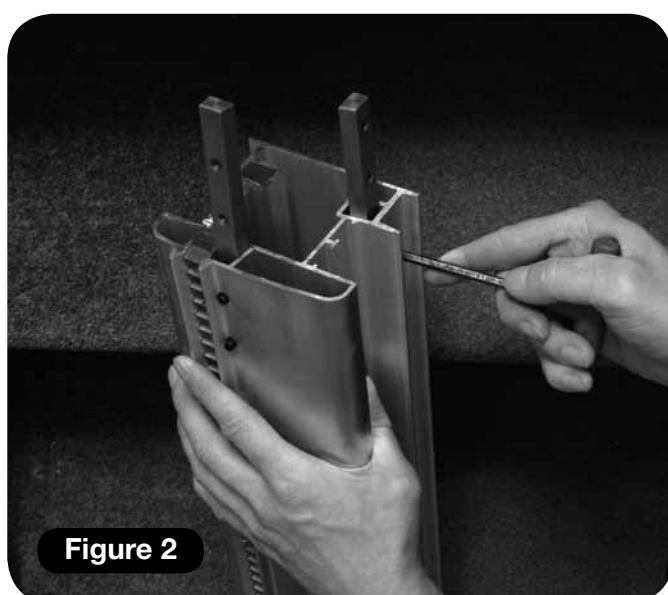


Figure 2

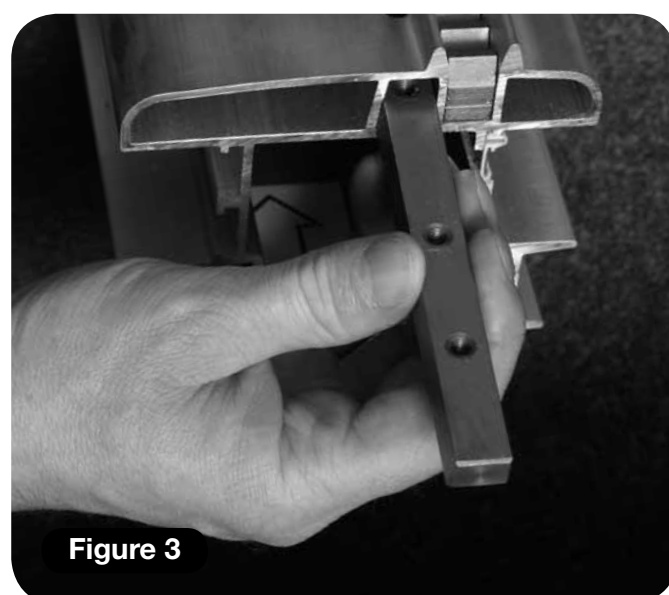


Figure 3

Track assembly

Note: Ensure that the splice bars are positioned in the track in the correct orientation. The splice bar has three flat faces and one sloping face. The sloping face **MUST** be positioned against the sloping face on the extrusion (**Figure 3**).

3 If the track is less than 2000mm and cutting to length on site:

- a** Remove the charge spring contact (**Figure 4**).
- b** Using the loading tool, push the plastic carrier strip up the top section of track (**Figure 5**).

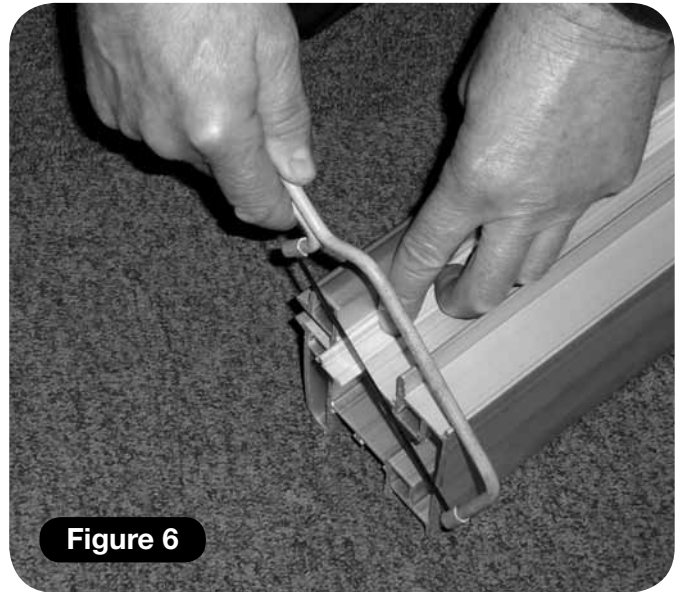


Figure 6

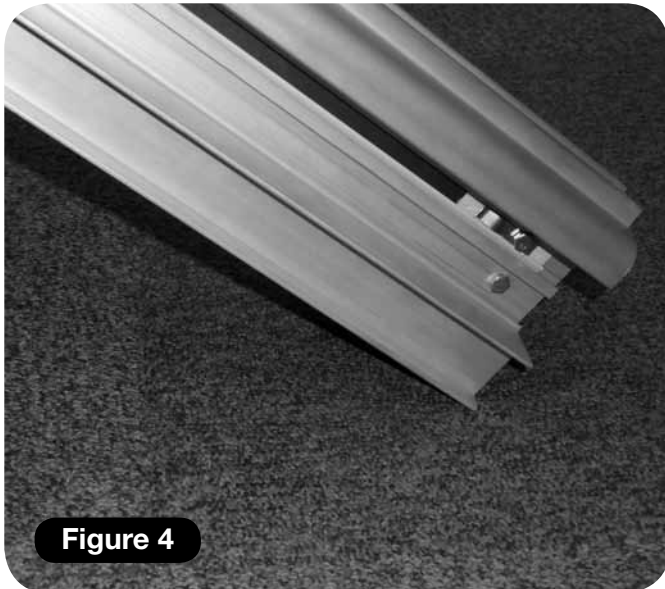


Figure 4

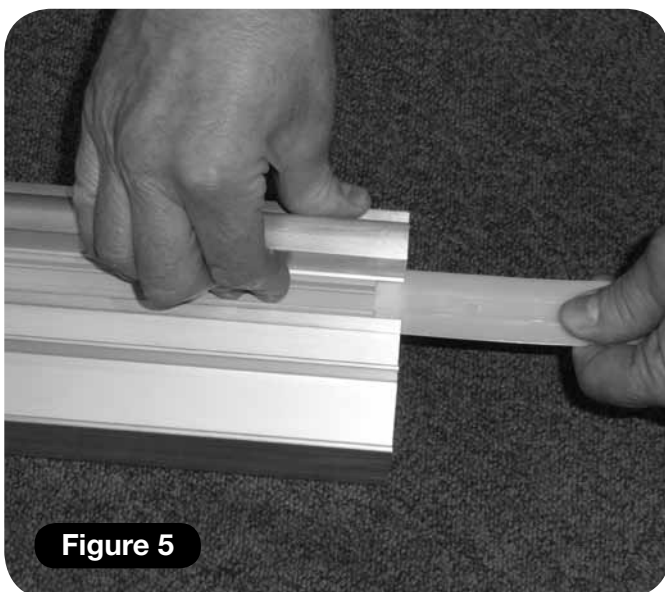


Figure 5



Figure 7

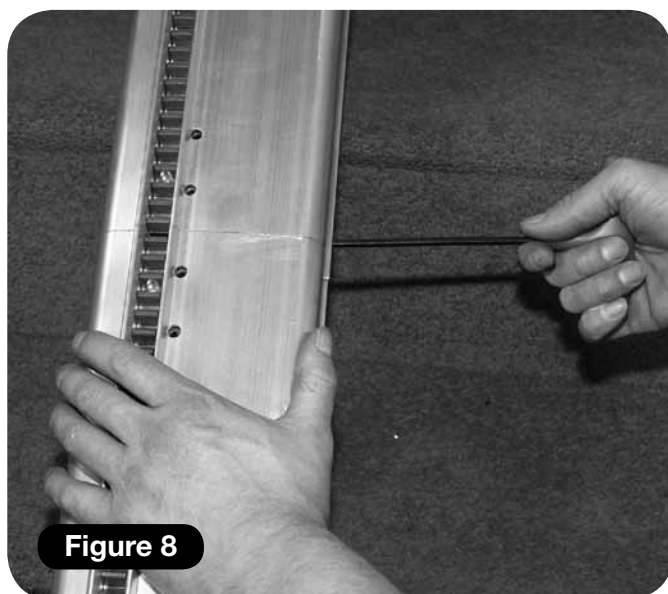


Figure 8

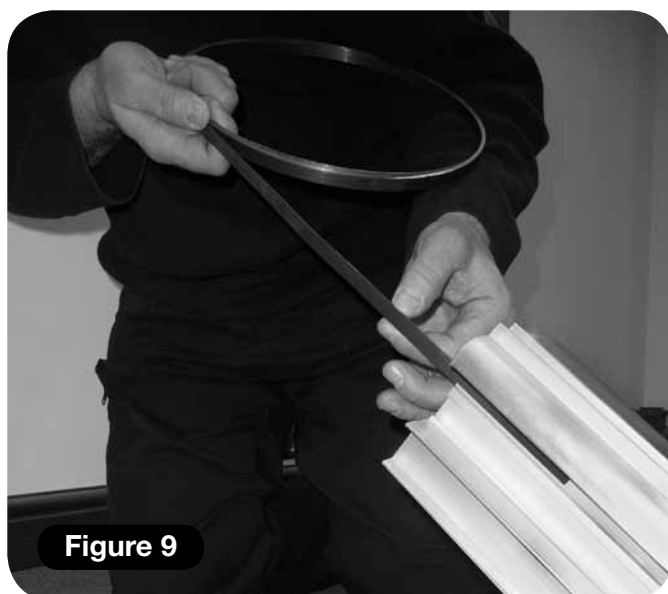


Figure 9

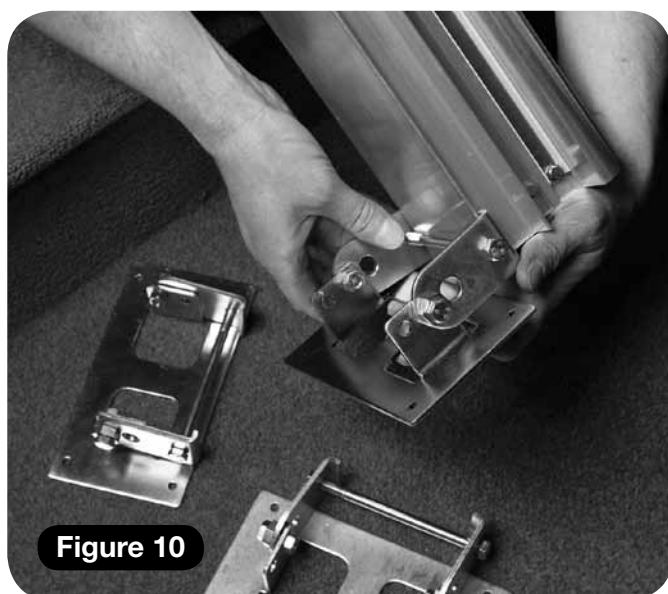


Figure 10

c At the top end of the top section use a hacksaw to remove the excess plastic carrier strip (**Figure 6**).

d Carefully replace the charge spring contact.

4 Position the top section of track adjacent to the bottom section of track (**Figure 7**).

5 Offer up the adjacent track section in the normal way. Run the two core top safety edge/end cap cable to the top of the track. Bolt together the two track sections as normal.

6 Bolt both sections of track together (**Figure 8**). The bolts should be tightened in sequence:

- | | |
|------------------------|---------------------|
| a left bottom | d left top |
| b centre bottom | e centre top |
| c right bottom | f right top |

Repeat this process until the bolts are all secure (torque setting 8-9Nm).

7 Push the plastic carrier strip down from the top track section to meet the plastic carrier strip in the bottom section. The plastic carrier strip will finish 10mm short of the end of the track. Carefully feed down the copper charge strip (**Figure 9**) and trim to the same length as the plastic carrier strip.

8 Check that the charge strip has made proper contact with the spring contact at the bottom of the track (**Figure 4**).

Note: Ensure that the track is connected with all faces level so that no step is present in the joint.

Note: Excessive force can damage and prevent the spring contact from making a proper connection.

9 Slide the three mounting feet on to the track (**Figure 10**).

Note: See page 8 for Slide Track positioning.



Figure 11

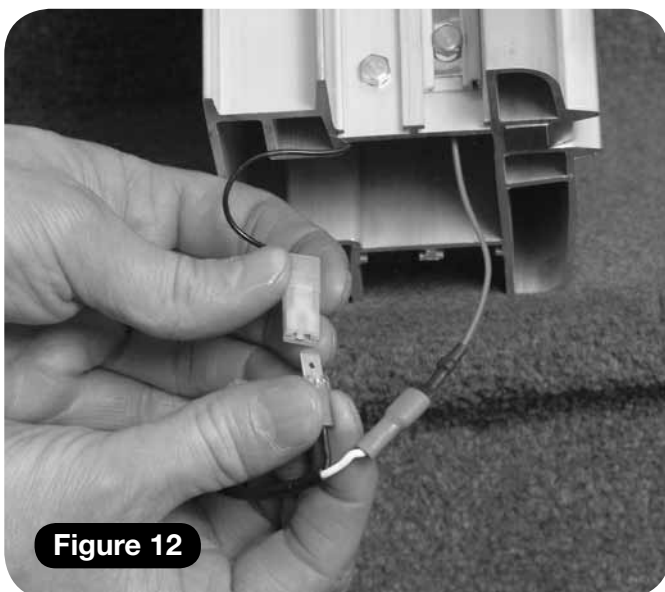


Figure 12

10 Position the feet in the following way (**Figure 11**):

- a** The top foot should be positioned on the last tread.
- b** The middle foot should be positioned immediately next to the spliced joint. If the top section is longer than the bottom then the foot should be ABOVE the spliced joint, if not, then the foot should be BELOW the spliced joint.
- c** The bottom foot should be positioned on the first tread.

11 Loosely tighten the feet to stop them from moving. The feet will help to stop the track from moving on the stairs while the next steps are performed.

Note: If the stairlift is being fitted to a staircase with open bannisters on the bannister side they must be covered with a solid sheet material for safety.

12 If the power supply is:

- a** At the top of the track:
 - Feed the long power cable with the push terminals from the power supply through the large cavity in the assembled track.
- b** At the bottom of the track:
 - Bring the long power cable with the push terminals from the power supply to the bottom of the track.

13 Slide the track up the stairs and position it centrally to give you sufficient room to work comfortably at the bottom of the stairs.

14 Connect the positive push terminal (WHITE CABLE) to the red push terminal attached to the busbar (**Figure 12**).

15 Connect the negative push terminal (BLACK CABLE) to the push terminal from the track.

16 Fit the bottom end stop and final limit stop to the bottom of the track only (**Figure 13**).

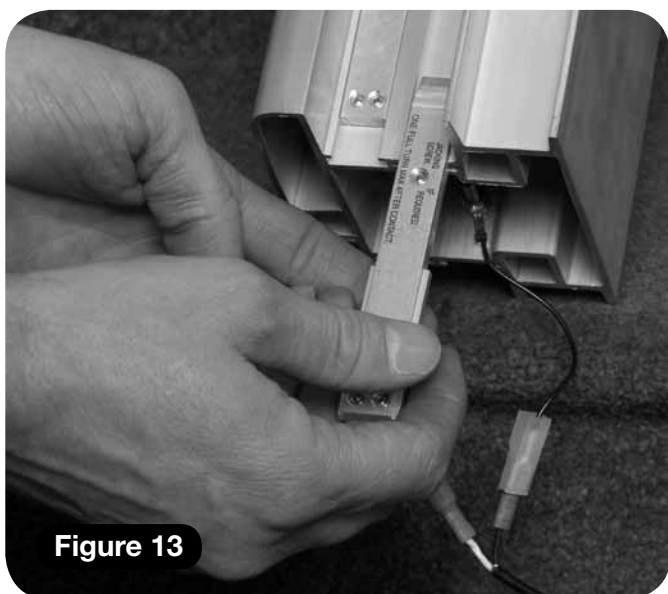


Figure 13

Note: The shorter (square ended stop) must be fitted in the top channel – failure to do this correctly could damage the lift.

- 17** Fit the bottom end cap to the track (**Figure 14**), ensuring that the power supply cable is fed through the channel provided so that it exits the track on the WALL side.
- 18** Tighten the grub screws to secure the end cap to the track.
- 19** Now slide the bottom end stop and final limit stop so that they sit against the positioning extensions of the end cap and then tighten the grub screws (**Figure 14**).

Note: The grub screws on the end cap should not be over tightened.

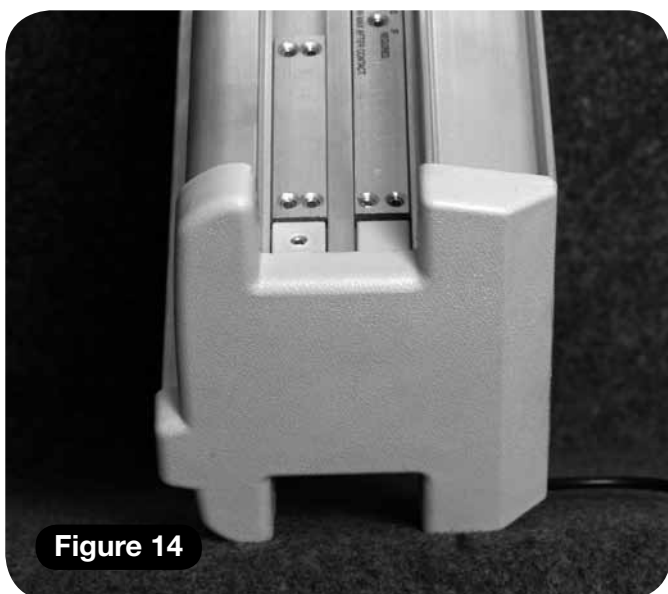


Figure 14

Feet positioning

Items required:

- None

Tools required:

- 13mm Spanner
- 13mm Socket

- 1 Slide the track to the side of the stairs that it will be finally located to position the feet. The feet should be positioned so that they are touching the stringer (**Figure 15**).

Note: If the stringer does not extend to the tread, i.e. it overhangs the staircase, use a plumb line to mark a position on the stairs. The feet should all be positioned in this way.



Figure 15

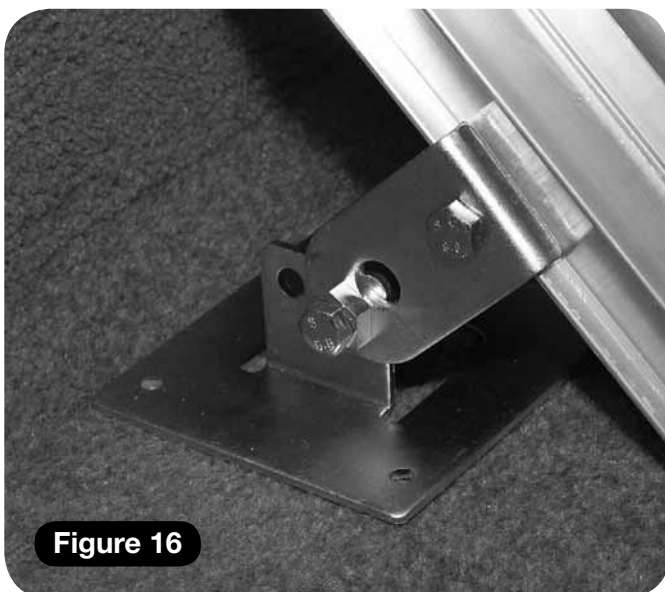


Figure 16

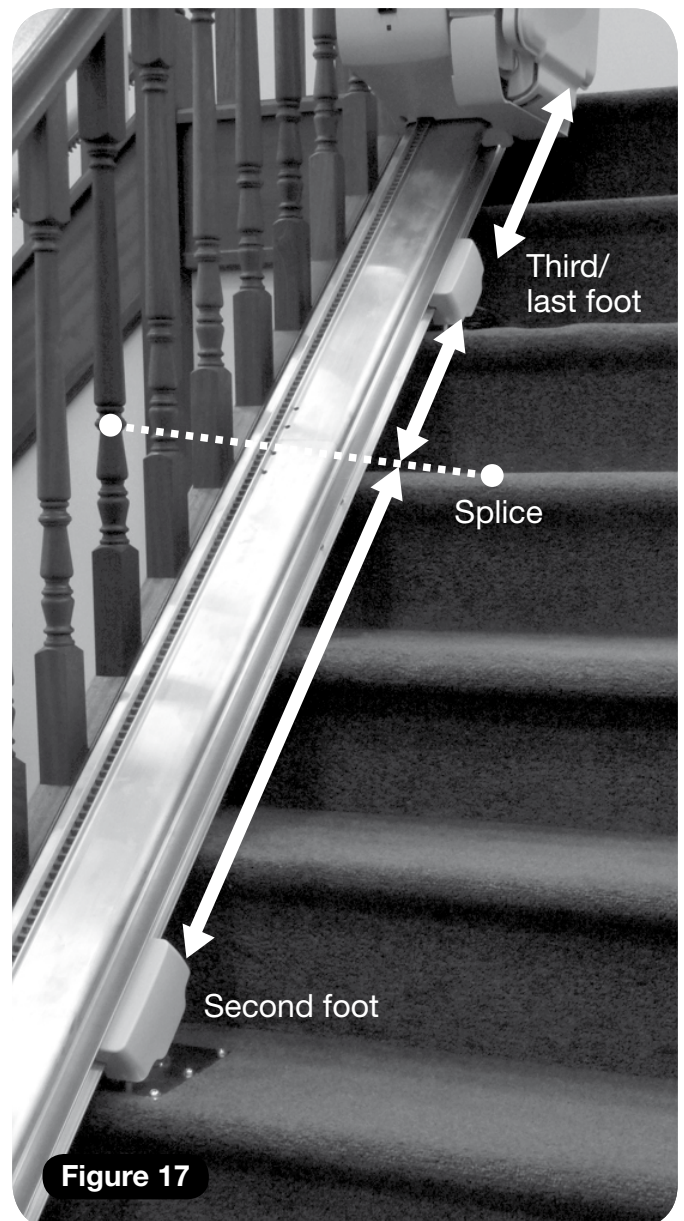


Figure 17

2 With the end of the track positioned so that it is just touching the floor ensure that the feet are still positioned on the stair treads as previously described (**Figure 11**), i.e:

- a** The top foot should be positioned on the last tread.
- b** The middle foot should be positioned immediately above the spliced joint.
- c** The bottom foot should be positioned on the first tread.

3 Tighten the bolts on the feet (**Figure 16**).

Slide Track only

- 4** Position the first (fixed) foot on the second step of the staircase. Then position and loosely fix the second foot to the stairs, two full steps below the track splice point (or the end of the track for a single section track), to allow clearance when the Slide Track moves (**Figure 17**). The track should be approximately 25mm from the nose of the stairs.
- 5** Position the remaining feet on the steps and loosely fix them to the stairs. The last foot needs to be positioned two full steps down from the top of the stairs, whilst the third foot should be as close as possible to the splice.
- 6** The feet should sit as close as possible to the stringer (**Figure 18**).

Note: Track may need to be moved out to ensure seat clears.

- 7** If the track was not delivered pre-cut to the correct length, trim the communications busbar to the appropriate length to accommodate the top end cap (**Figures 4, 5 and 19**).
- 8** Clip on the stringer-side roller covers using the tacks provided. Then, with the track in approximately the correct position, put a screw into each foot to stabilise the track (**Figure 20**).

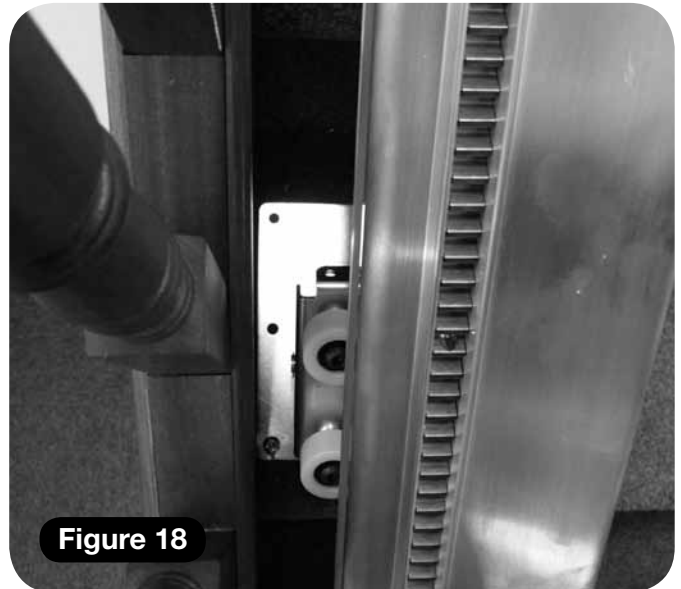


Figure 18

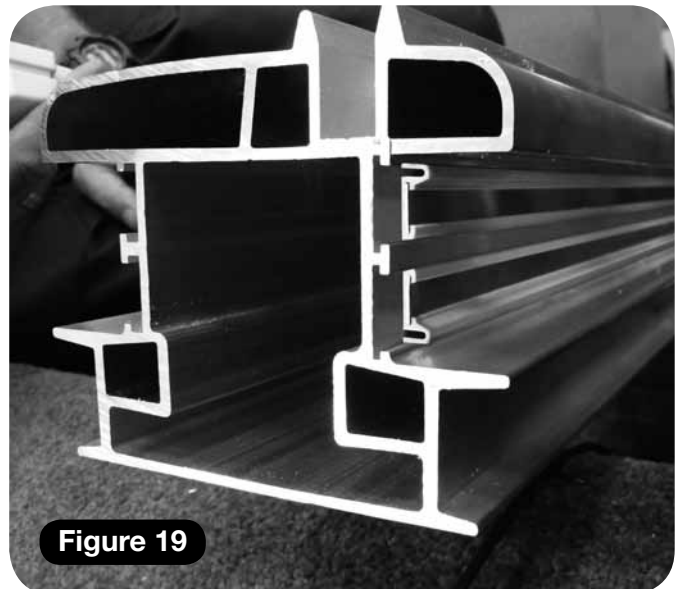


Figure 19



Figure 20

Loading the power pack

Items required:

- Power pack
- Fit Kit
 - End cap x 1
 - Green bag
 - Wood screws x 12
 - Final limit stops x 1

End stops x 1

Busbar pickup loading tool
(x 2 for Slide Track)

Tools required:

- Loading toggle
- Shorting links

- 1 Carry the power pack box to the top of the stairs.
- 2 Unpack the power pack from its box carefully.
- 3 Move the track away from the stringer slightly, around 150mm, to give you more room to work.
- 4 Remove the blanking plates from the side of the power pack that will be facing the stairs (**Figure 21**).
- 5 Connect the limit switch shorting links (**Figures 21 and 22**).
- 6 Connect the driving links (or loading toggle) (**Figures 21 and 22**).
- 7 Ensure that the busbar pickup loading tool is correctly positioned (**Figure 23**).
- 8 Carefully slide the power pack onto the track until the drive pinion meets the beginning of the rack (**Figure 24**).
- 9 Turn the power pack on from the main switch on the lower safety edge (**Figure 25**).
- 10 Using the loading driving links or toggle switch (**Figure 26**), drive the power pack onto the track. The power pack should be driven to a position approximately half way between the top and middle foot.
- 11 Fit the top end stop and final limit stop to the top of the track (**Figure 27**).

Note: The shorter (square ended stop) must be fitted in the top channel – failure to do this correctly could damage the lift.

- 12 Fit the top end cap to track and tighten the grub screws to secure it.

Note: The grub screws on the end cap should not be over tightened. If the power supply is being connected at the top of the stairs, ensure that the power supply cable is fed through the channel provided so that it exits the track on the WALL side.

- 13 Now slide the top end stop and final limit stop so that they sit against the positioning extensions of the end cap and then tighten the grub screws.

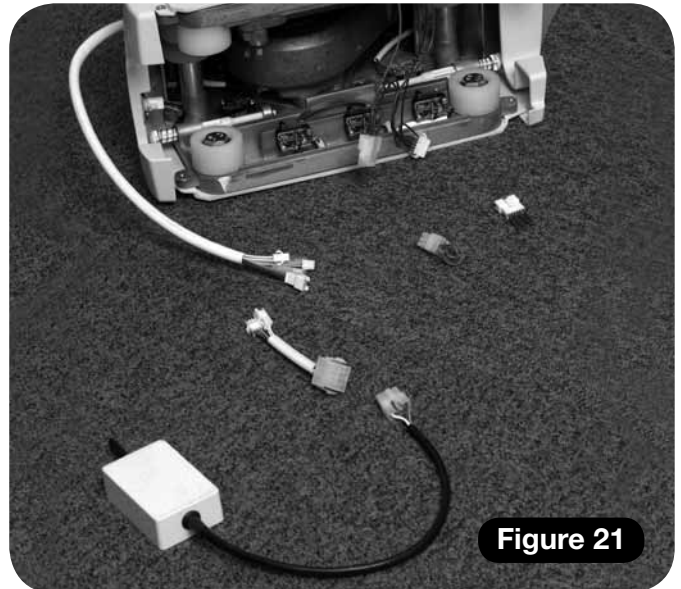


Figure 21

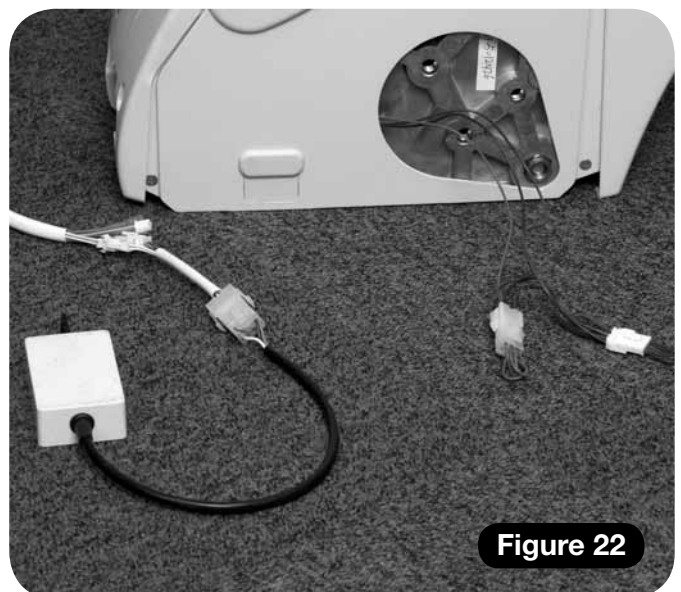


Figure 22

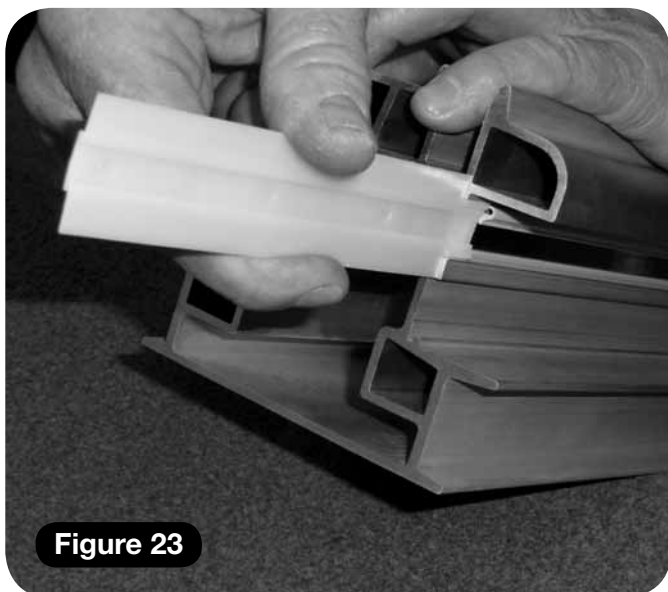


Figure 23



Figure 26



Figure 24

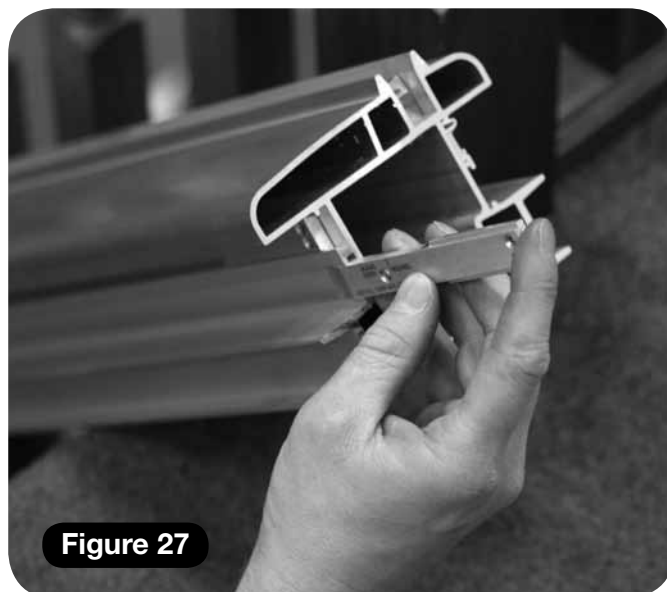


Figure 27



Figure 25

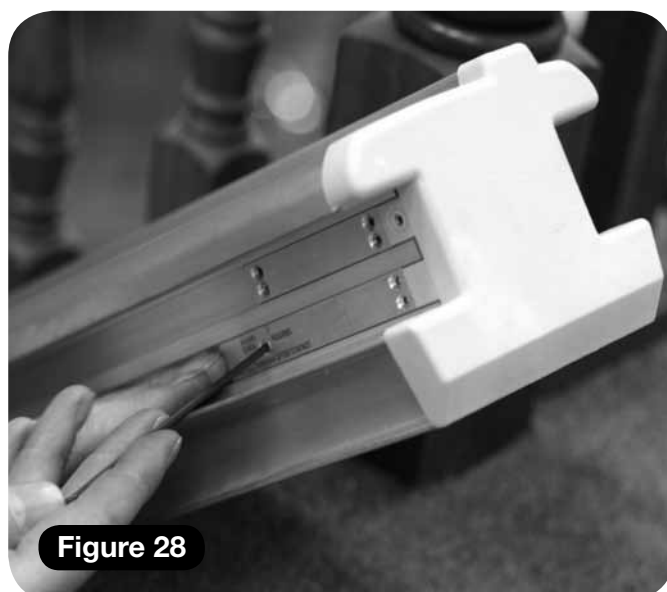


Figure 28

Loading the power pack

Note: The final limit stop jacking screw should only be used if the final limit is not being recognised when the pack is run on the track. Tighten one full turn max after contact (**Figure 28**).

Slide Track installations

- 14** When loading the pack take care to correctly position the two busbar pickup loading tools (**Figure 29**).
- 15** In order to load the pack dipswitch 2 on the main PCB must be set to the OFF position. Once loaded this dipswitch should be returned to the ON position to enable the Slide Track (see wiring diagrams).

Note: Do not drive the power pack in the UP direction until the top end cap has been fitted. The busbar may move and lose contact with the spring at the bottom of the track.

- 16** Connect the power supply to the ring main or fused spur. A 400mm long “lazy loop” must be left by the stringer near the point under the centre of the track where the power cable enters the track. This is to allow slack for the Slide Track’s travel (**Figure 30**).
- 17** Connect the top track safety edge assembly (active end cap) remembering to attach the additional wires (**Figure 31**).

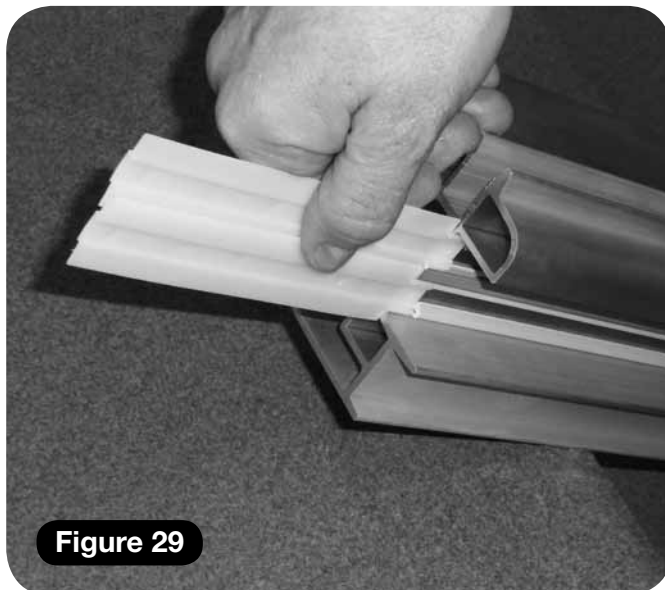


Figure 29



Figure 30

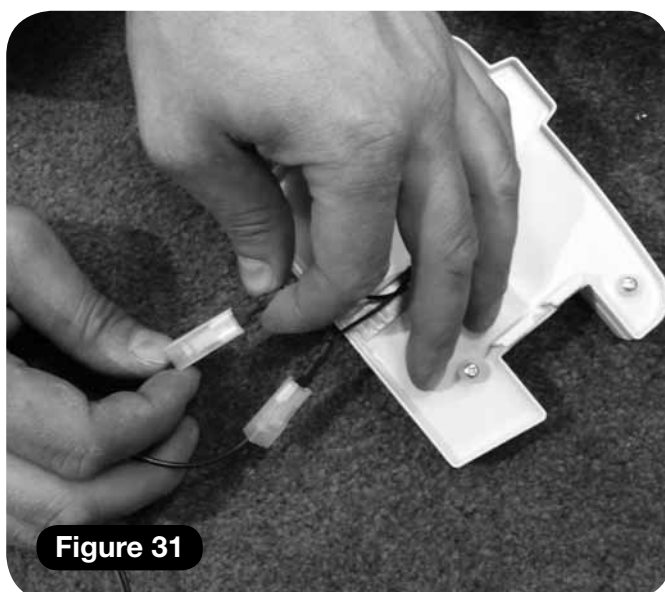


Figure 31

Fitting the front chassis to the power pack

Items required:

- Front chassis

Tools required:

- Side cutters
- 6mm Allen key
- 8mm Allen key
- Spirit level

Two cover plates and various front chassis bolts and fixings should be packed with the front chassis assembly including the safety bolt and four seat back bolts (**Figure 32**).

Before fitting the front chassis feed the loom through the tear shaped cover plate and then attach it to the power pack (**Figure 33**).

- 1 Depending upon the hand of the stairlift being fitted, remove the appropriate pair of knock-outs (**Figure 34 – left hand shown**).
- 2 Gently pull down the footplate to get access to the panel.
- 3 Ensure that the loom from the pack is correctly positioned and does not interfere with the underpan safety edge (**Figure 35**).
- 4 Fit the fixing block, bolts and spacers to the front chassis.



Figure 33



Figure 34

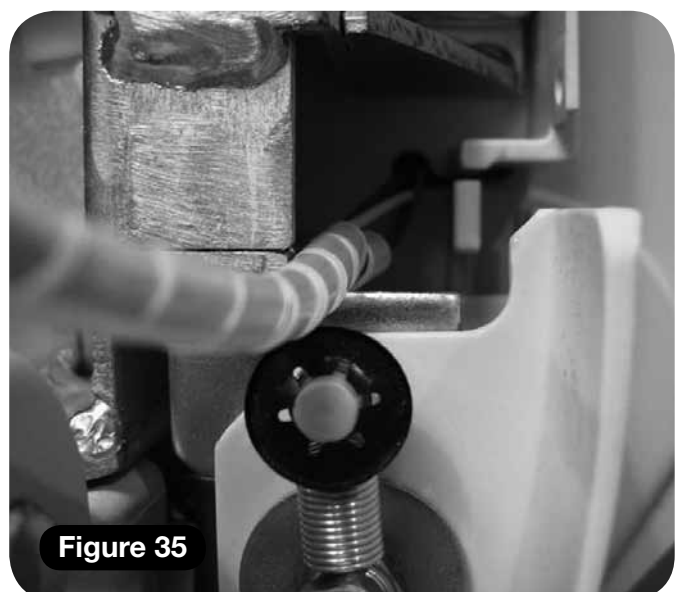


Figure 35



Figure 32

Fitting the front chassis

- 5 Offer the seat chassis to the power unit, and using the bolts and spacers secure the seat chassis to the power unit, ensuring that the chassis is in the correct vertical alignment (**Figure 36**).

Note: The power unit has an arched slot on the seat chassis interface, to set the angle of the seat and footplate.

Note: Use a spirit level positioned on the top of the front chassis, or on the footplate, to ensure that correct alignment is achieved.

- 6 Fit the safety bolt (**Figure 37**). This needs to be left loose enough to allow the rear cover to pass behind it.

Note: On left hand installations on staircases steeper than 38° the alternative safety bolt position must be used (**Figure 38**).

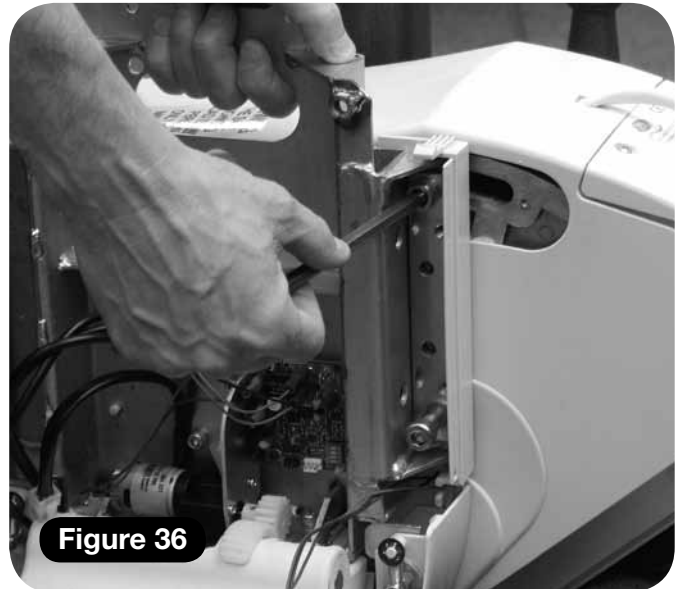


Figure 36

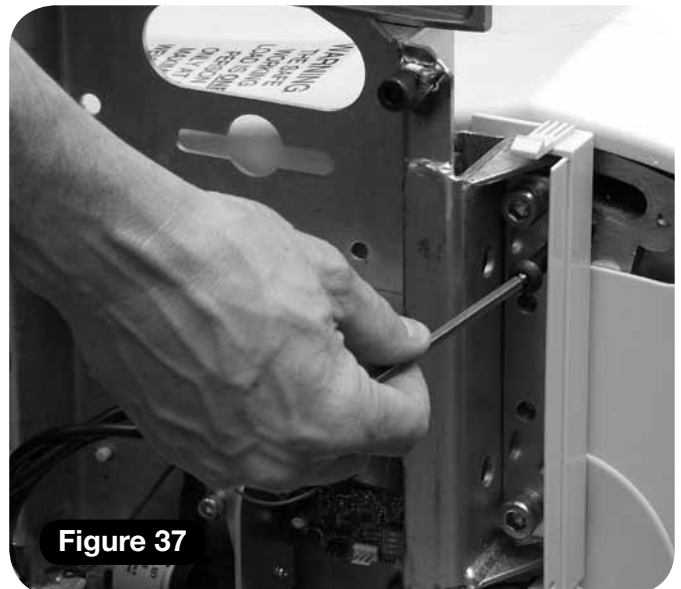


Figure 37

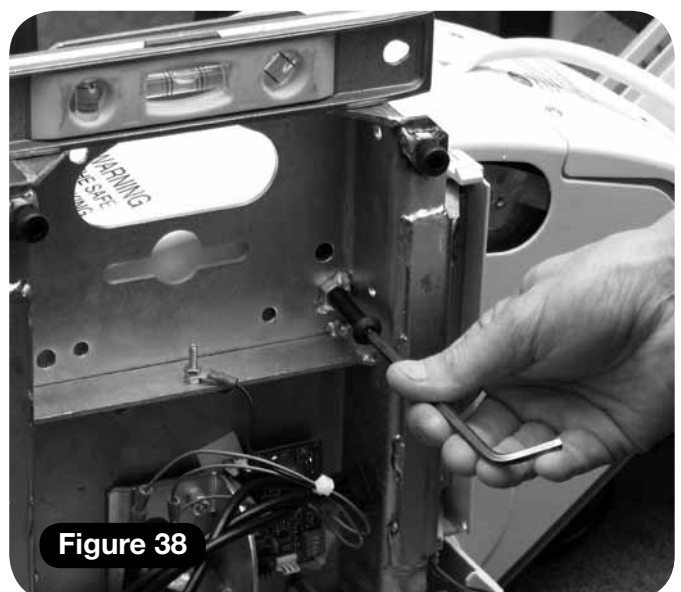


Figure 38

Fitting the seat base

Items required:

- Seat base
- Cover plate
- 2 x clips

Tools required:

- 10mm socket
- 13mm socket
- Narrow nosed pliers
- 6mm Allen key

- 1 Depending upon the hand of the stairlift being fitted, remove the appropriate knock-outs from the chassis top rear cover (**Figure 39 – Left hand shown**). Refer to the table below for the number of knock-outs to be removed for the client height.

Required seat to footplate height (mm)	Knock-outs to be removed
540	1
515	2
490	3
465	4
440	5
430	5

- 2 Load the seat base and feed the two seat post retaining bolts through the washers and the seat stems into the bottom front chassis; selecting the appropriate seat height for the client by using the holes corresponding to the height that is required (**Figure 40**).
- 3 Tighten the seat post stabilising bolts (**Figure 41**), and tighten the safety bolt.
- 4 Remove the lowest of the available central knockouts from the top rear cover and feed through the main pack loom (**Figure 42**).
- 5 Using the clips provided (**Figure 43**) fit the cover plate to the front chassis (**Figure 44**).

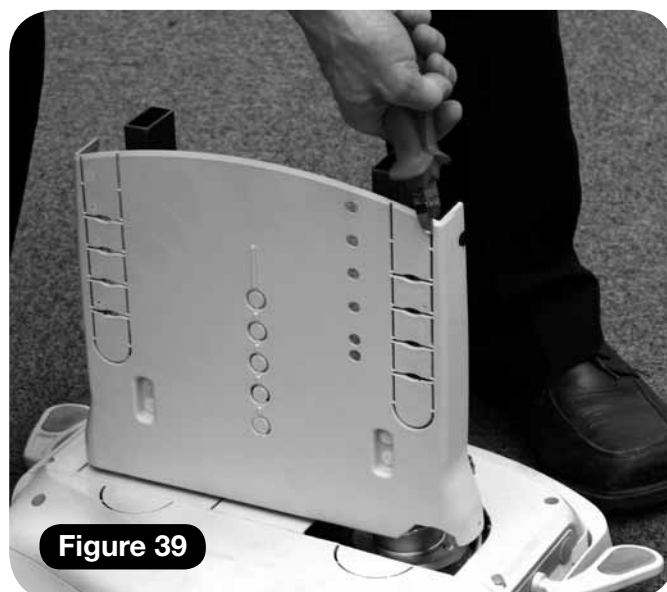


Figure 39

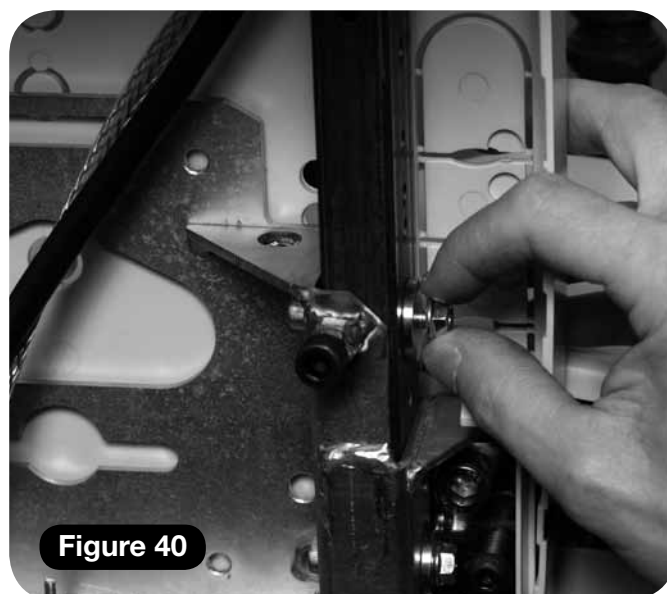


Figure 40

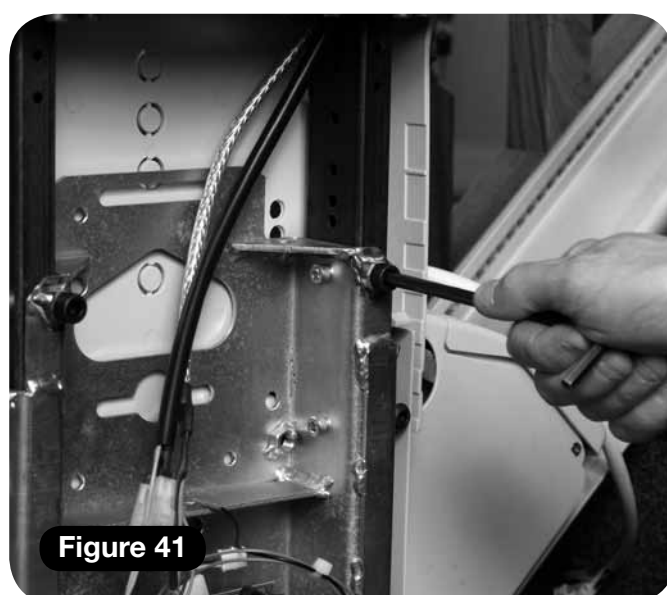


Figure 41

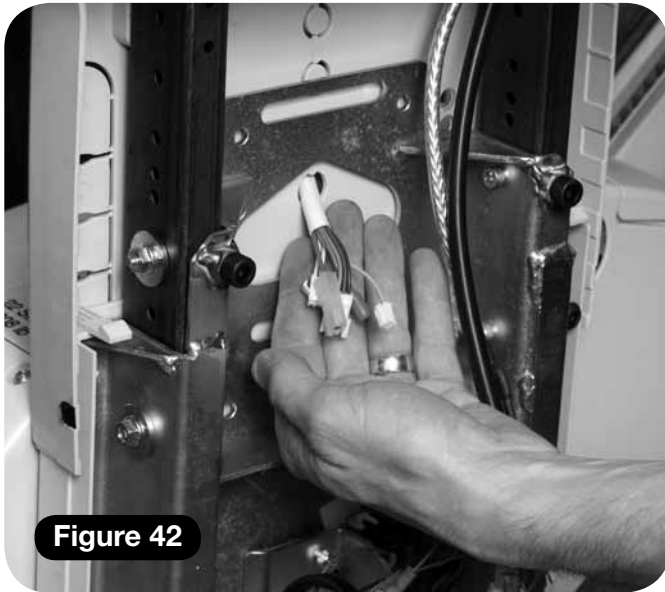


Figure 42

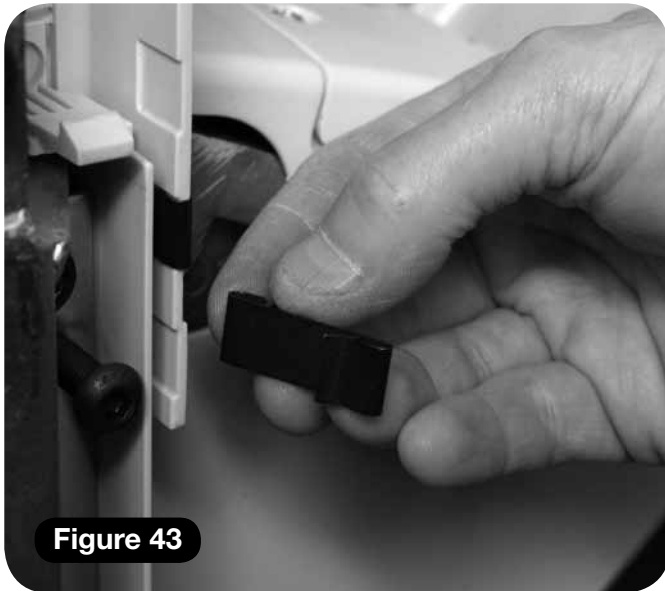


Figure 43

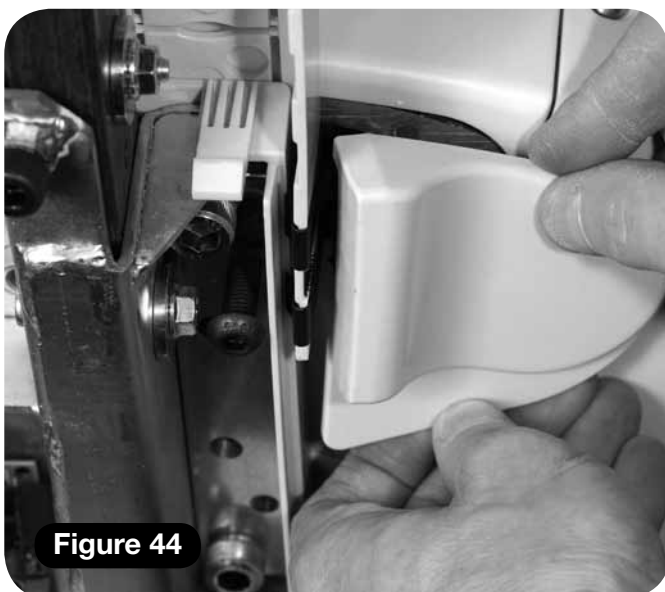


Figure 44

Fitting the seat back

Items required:

- Seat back

Tools required:

- 6mm ball ended Allen key

Redundant connections are present to allow easy re-handing of seats. Connections must be made according to the handing of the stairlift; i.e. for a stairlift with left-hand toggle switch and key switch (always together on one side), those connections must be made to left hand arm. The right arm will then house a powered footplate switch (if fitted).

- 1 Place the seat back onto the seat base and using a ball ended 6mm Allen key secure it with the four bolts and washers provided **(Figure 45)**.
- 2 Make the upper seat wiring connections as follows **(Figure 46)**;
 - a Key switch connection:
green and orange to green and orange.
 - b Toggle switch: blue, white and brown to blue, white and brown
- Arm switched powered footplate only**
 - c Powered footplate:
Twin Yellow to twin Yellow

Note: The toggle switch connection must be made through the interlock loom to enable the arm interlock functionality **(Figure 47)**.

- 3 Tidy the cables to the back of the seat **(Figure 48)**.

Emergency swivel lever

- 1 Feed the anti-tamper seal through the emergency swivel lever **(Figure 49)**.
- 2 Near the front flap of the seat there is a large and a small hole. Pass the anti-tamper seal through the small hole, then feed it back through the larger hole and back on itself through the hole in the end of the anti-tamper seal. The lever should be attached on the down side of the lift.

- 3 Pull the anti-tamper seal tight and trim off any excess to leave the lever hanging securely.

Note: The user must be informed that the lever is for emergency use only.

To use, the lever should be twisted to break the anti-tamper seal. The lever can then be inserted into the swivel lever socket. It must be held in place to operate the swivel mechanism.

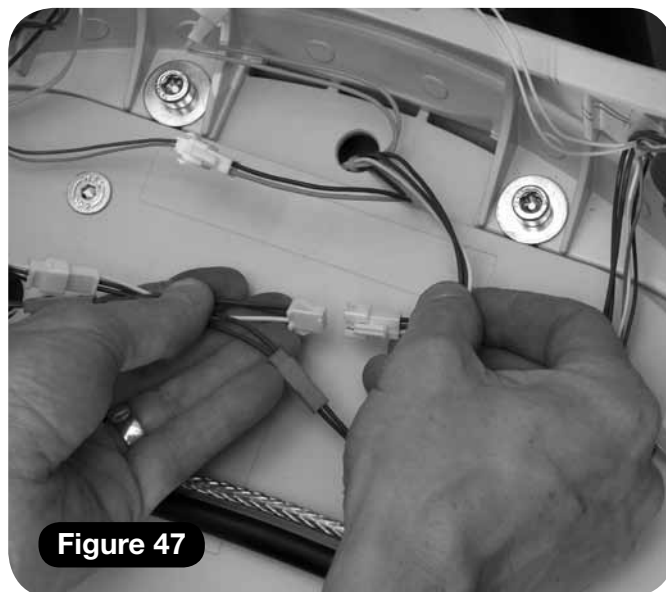


Figure 47

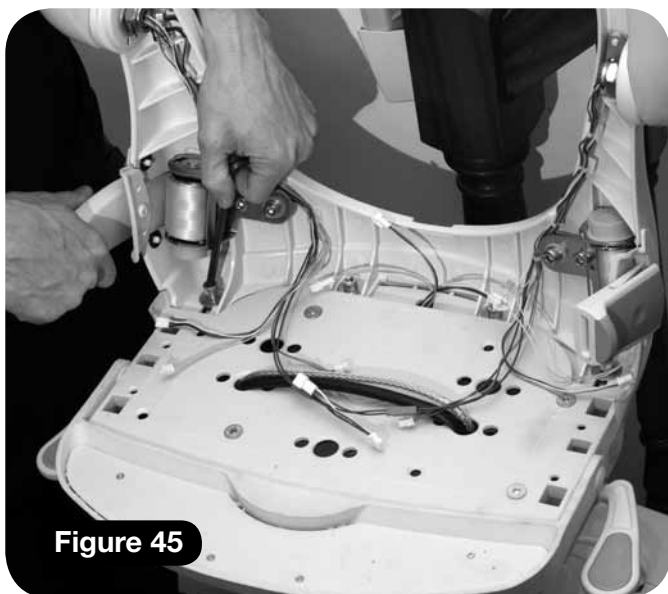


Figure 45

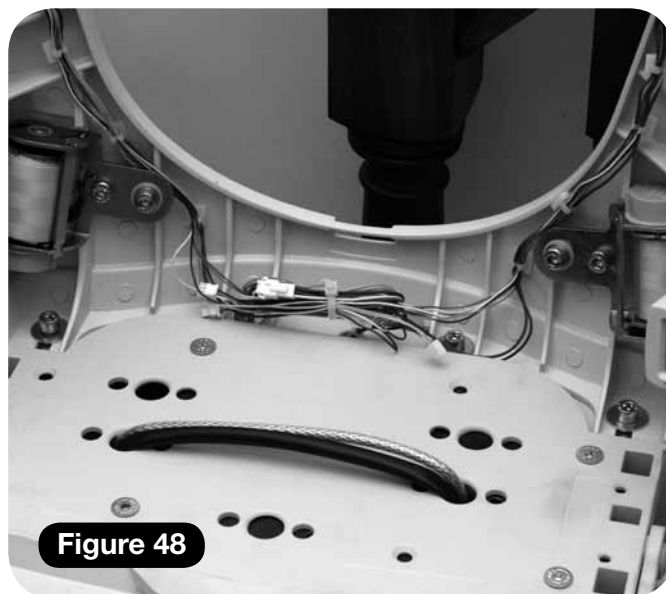


Figure 48

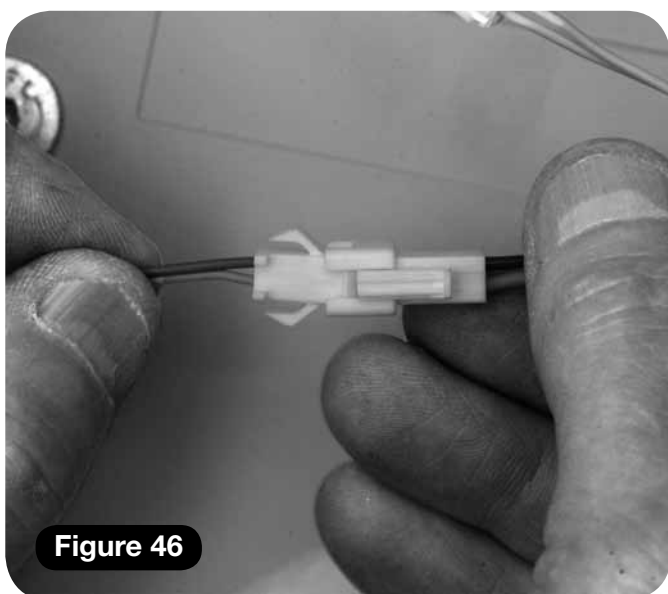


Figure 46



Figure 49

Electrical connections

Items required:

- None

Tools required:

- None

1 Make seat and footplate electrical connections **(Figure 50)**.

- Connect the key switch loom (orange and green).
- Connect the toggle loom (white, blue and brown).
- Connect the safety edge loom (flat six way connection: 2 x brown, 2 x red and 2 x violet).
- Connect the six way footplate loom.

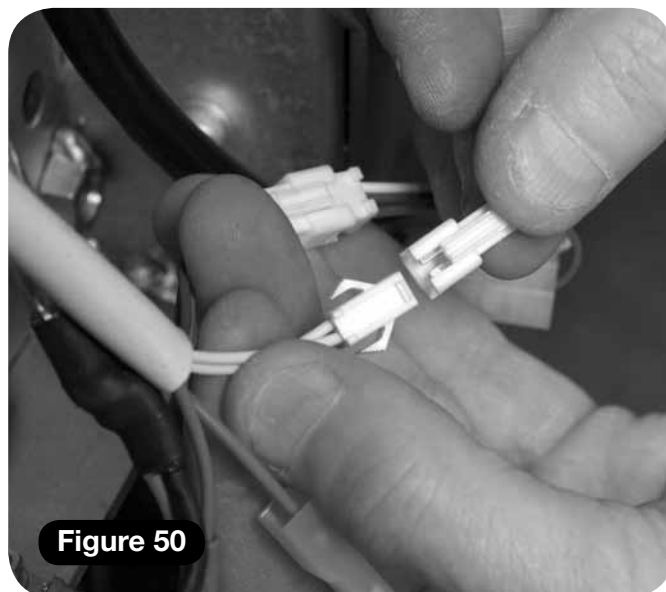


Figure 50

Powered footplate only

- Connect the powered footplate looms (twin yellow and grey comms).

Power swivel only

- Connect the grey powered swivel loom.
 - Connect the shielded swivel loom earth ring terminal.
- #### 2 Test the function of the powered features, including the toggle **(see pages 24/25)**.



Figure 51

Fit the front chassis covers

Items required:

- Top front chassis cover
- Bottom front chassis cover

Tools required:

- Side cutters

- Clip in the bottom front cover and fit the panel fixing push studs.
- Fit the top front cover and secure with the supplied panel fixing push studs **(Figure 51)**.

Fitting the seat upholstery

Items required:

- Seat upholstery

Tools required:

- Screw driver

- 1 Clip in the seat back, starting with the top two clips (**Figure 52**) and then screw in the seat belt cover mouldings (**Figure 53**).
- 2 Fit the main seat cushion.
- 3 Fit the seat flap cushion.
- 4 Fit the arm upholstery. Starting at the front, press the upholstery into the arm recess. (**Figure 54**).

**Figure 52****Figure 53****Figure 54**

Securing the track

Items required:

- Fit kit
- Green bag
- Woodscrews

Tools required:

- Spirit level
- Tape measure
- No. 2 Pozi-drive

- 1 Drive the power pack up and down the stairs to ensure that it will not encounter any unforeseen obstacles **(Figure 55)**.

Note: Look for any other potential obstacles such as window ledges or exposed pipework that could obstruct the movement of the lift at this stage.



Figure 56



Figure 55



Figure 57

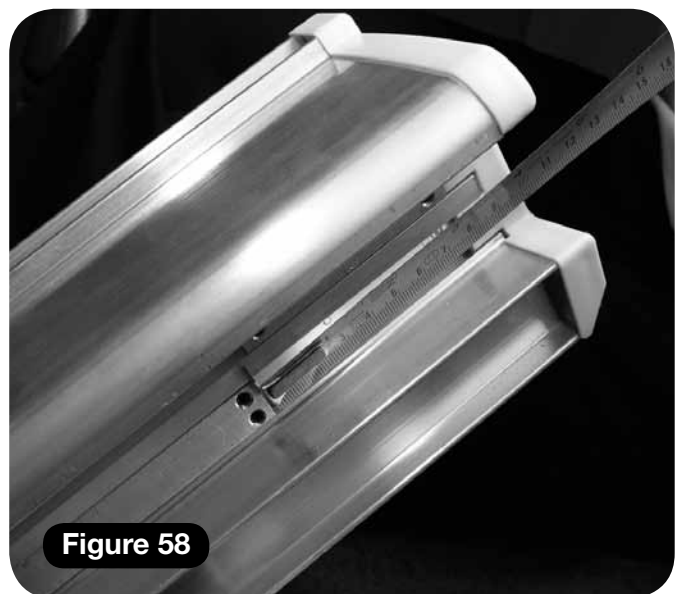


Figure 58

Note: If there are any other obstacles move the track away from the wall until the rear edge of the power pack can travel freely past them.

- 2 Drive the stairlift to the top of the track.
If the footplate does NOT finish level with the landing then:
 - a Drive the stairlift so that the footplate is level with the top of the stairs (**Figure 56**).
 - b Measure the distance from the top safety edge to the inside face of the end cap (**Figure 57**).
 - c Drive the stairlift halfway down the stairs.
 - d Carefully slide the top of the track into the middle of the staircase so that you have access to the end stops (you may not need to do this if you are installing a left hand lift).
 - e Loosen the grub screws on the bottom stop (the ramped one) so that you can just slide it.

Note: Be careful not to loosen the grub screws fully – the bottom stop may slide all the way down the track.

- f Slide the bottom stop down the track so that the distance from the top edge of the stop to the inside face of the end cap is the same as the distance measured from the safety edge to the end cap (**Figure 58**).
 - g Tighten the grub screws.
 - h Re-position the track in its final location as previously described.
 - i Drive the stairlift back to the top of the stairs and check that the footplate now finishes level with the landing (**Figure 57**).
 - j Make minor adjustments as necessary and repeat process until the footplate finishes level with the landing.
- 3 Secure the feet to the staircase using the woodscrews provided in the Green bag from the fit kit (**Figure 59**).



Figure 59

Note: If you are installing the Simplicity track on onto a carpet that is very thick and is liable to compress significantly under load you **MUST** space the track 10mm from the nose of the staircase. Failure to do so may result in the footplate safety edge operating, stopping the lift.

- 4 Fit the power supply to the wall in an appropriate position using the bracket supplied.

Remote control handsets

Items required:

- Handsets

Tools required:

- No. 2 Pozi-drive
- 5mm Allen key

Programming

The infra-red remote control handsets supplied with the lift should work out of the box. If the lift does not travel up and down the stairs when the corresponding handset buttons are pressed, or if there are multiple lifts in one area, follow the procedure set out below.

- 1 Drive the lift to the third or fourth step so that it is at a comfortable height to work on.
- 2 Remove the bottom safety edge by undoing the two visible cross head screws on the top edge and the one hidden Allen by the track (**Figure 60**).
- 3 Slide the bottom safety edge down the track to expose the control board and batteries.
- 4 Bring both handsets to the lift and then programme the handset to the board in the following way.
 - a For single lift applications:
 - i Press and hold the red button on the PCB (**Figure 61**) – a yellow LED will illuminate on the PCB.
 - ii Press any button on the handset and the yellow light will go out.
 - iii Programming is complete.

Note: Low energy light bulbs can interfere with the infrared signal causing the lift to stop and start. Reprogramming the handsets with the lights on can resolve this problem.



Figure 60

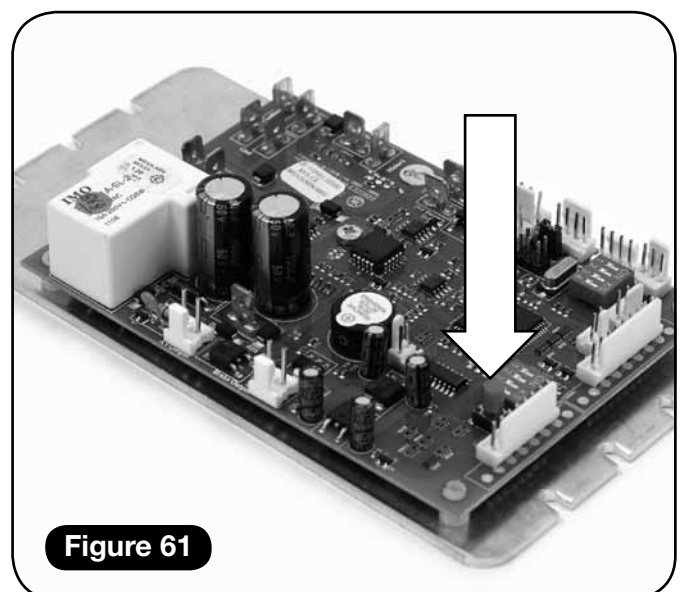


Figure 61

b For multiple lift applications:

- i Remove the red dipswitch protection cap with a small screwdriver (**Figure 62**).
- ii Set the dipswitches on the PCB on both handsets to the same settings – note that the next pair of handsets will require the dipswitches to be set to a different combination (**see Figure 63**).
- iii Press and hold the red button on the PCB (**Figure 61**) – a yellow LED will illuminate on the PCB.
- iv Press any button on one handset and the yellow light will go out.
- v Programming is complete.

- 5** Test that the handsets have programmed correctly by pressing the up and down button on each and check that the lift moves in the corresponding direction.

Fitting the handset holder

Note: The handset MUST be fixed into the holder by screwing through the holder into the handset (**Figure 64**).

- 1** Fit the hand control holder to the wall in the required position using the fixings supplied (**Figures 65 and 66**).



Figure 63



Figure 64

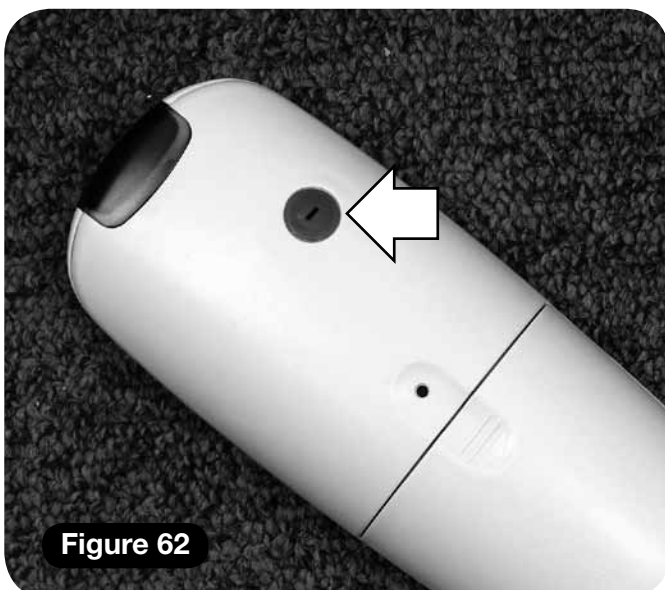


Figure 62



Figure 65



Figure 66

Testing

Items required:

- Handsets

Items required:

- None

All variants

- 1 Sit on the lift and drive up and down the track to ensure that the footplate clears the nose of the risers along the complete length of the track.
- 2 Check that the lift charges correctly:
 - a Drive the lift to the top charge contacts and ensure that '-' shows in the diagnostic display.
 - b Drive the lift to the bottom charge contacts and ensure that '-' shows in the diagnostic display.
- 3 Check the key switch operation
 - a Turn the key to the off position and ensure that the lift will not drive – '0' should show in the diagnostic display when you try and drive the lift with the key switch in the off position.
 - b Turn the key switch back on.
- 4 Ensure that all of the safety edges on the power pack are functioning (**Figure 67**).
 - a Drive the lift in the up direction.
 - b Press the top safety edge – the lift should stop.
 - c Drive the lift in the down direction.
 - d Press the bottom safety edge – the lift should stop.
- 5 Check the safety edges on the footplate and front chassis (**Figure 68**).
 - a Drive the lift in the up direction.
 - b Press the upstairs edge of the footplate – the lift should stop.
 - c Drive the lift in the down direction.
 - d Press the downstairs edge of the footplate – the lift should stop.



Figure 67



Figure 68

- e** Drive the unit in the down direction.
- f** Press the underside of the footplate – the lift should stop.
- g** Drive the lift in the down direction.
- h** Press the underside of the front chassis – the lift should stop.

Power footplate only

- 1** For arm operated versions:
 - a** Operate the switch under the arm.
 - b** The footplate should lift.
 - c** Operate the switch in the opposite direction.
 - d** The footplate should lower.
- 2** For seat operated versions:
 - a** Lift the front seat squab.
 - b** The footplate should lift.
 - c** Lower the front seat squab.
 - d** The footplate should lower.

Manual swivel only

- 1** Check the swivel interlock:
 - a** Drive the lift in the up direction.
 - b** Swivel the seat – the lift should stop.
 - c** Drive the lift in the down direction.
 - d** Swivel the seat – the lift should stop.

Power swivel only

- 1** Using the handset:
 - a** Drive the lift down from the top of the stairs.
 - b** Depress the up button and keep it depressed.
 - c** Observe the function of the lift.
The lift should:
 - i** Drive up the stairs.
 - ii** Stop at the top of the track.
 - iii** Beep whilst swivelling the seat to the exit position.

- d** Depress the down button and keep it depressed.
- e** Observe the function of the lift.
The lift should:
 - i** Beep whilst swivelling the seat to the drive position.
 - ii** Drive down the stairs.

- 2** Sit on the stairlift:
 - a** Drive the lift down from the top of the stairs.
 - b** Push the toggle switch in the up direction and hold it in that position.
 - c** Observe the function of the lift.
The lift should:
 - i** Drive up the stairs.
 - ii** Stop at the top of the track.
 - iii** Beep whilst swivelling the seat to the exit position.
 - d** Use the manual over-ride lever to swivel back to the drive position.
 - e** Use the manual over-ride lever to swivel back to the exit position.
 - f** Push the toggle switch in the down direction and hold it in that position.
 - g** Observe the function of the lift.
The lift should:
 - i** Beep whilst swivelling the seat to the drive position.
 - ii** Drive down the stairs.

Slide Track installations only

1 Using the handset:

- a Drive the lift to the top of the stairs.
- b Depress the down button and keep it depressed.
- c Observe the function of the lift.
The lift should:
 - i Drive down the stairs at half speed moving with the Slide Track.
 - ii Depending upon the length of the track:
 - If the lift **does not** reach the end of the track before the Slide Track has completed its travel then the Slide Track will stop whilst the lift will continue to the end of the track and ramp up to normal speed.
 - If the lift **does** reach the end of the track before the Slide Track has completed its travel then the stairlift will stop and the Slide Track lift will continue to the end of its travel.
- d Depress the up button and keep it depressed.
- e Observe the function of the lift.
The lift should:
 - i Drive up the stairs.
 - ii Depending upon the length of the track:
 - If the lift **does not** reach the end of the track before the Slide Track has completed its travel then the Slide Track will stop whilst the lift will continue to the end of the track and ramp up to normal speed.
 - If the lift **does** reach the end of the track before the Slide Track has completed its travel then the stairlift will stop and the Slide Track will continue to the end of its travel.

2 Sit on the stairlift:

- a Drive the lift to the top of the stairs.
 - b Push the toggle switch in the down direction and hold it in that position.
 - c Observe the function of the lift.
The lift should:
 - i Drive down the stairs.
 - ii Depending upon the length of the track:
 - If the lift **does not** reach the end of the track before the Slide Track has completed its travel then the Slide Track will stop whilst the lift will continue to the end of the track and ramp up to normal speed.
 - If the lift **does** reach the end of the track before the Slide Track has completed its travel then the stairlift will stop and the Slide Track will continue to the end of its travel.
 - d Push the toggle switch in the up direction and hold it in that position.
 - e Observe the function of the lift.
The lift should:
 - i Drive up the stairs.
 - ii Depending upon the length of the track:
 - If the lift **does not** reach the end of the track before the Slide Track has completed its travel then the Slide Track will stop whilst the lift will continue to the end of the track and ramp up to normal speed.
 - If the lift **does** reach the end of the track before the Slide Track has completed its travel then the stairlift will stop and the Slide Track will continue to the end of its travel.
- 3 Turn off the power supply to the charge contacts.
- 4 Repeat steps 1 and 2 above.
- 5 Turn the power supply back on.



Handover

Items required:

- None

Items required:

- None

Demonstrate the stairlift to the customer, carer and any users or potential users before leaving the installation site.

Please use the following checklist to ensure that all of the items that should be demonstrated are covered:



Feature	Explanation	Done?
Keyswitch	Used to disable the stairlift against unauthorised use – especially useful to prevent children from playing with the stairlift.	
	The stairlift will still charge with the keyswitch disabled.	
On/off switch	DO NOT turn the stairlift off using this switch unless you will not be using the stairlift for a prolonged period such as a holiday.	
Seat-belt	The seat-belt should be used every time the stairlift is used.	
Operating lever	Which way is up / which way is down.	
	How the toggle can be used, e.g. with the fingers, palm of the hand, etc.	
	The delay in pressing the lever before the stairlift will move.	
Operating the stairlift	Always keep your FEET ON THE FOOTPLATE whilst the stairlift is in motion, and try to avoid your feet hanging over the edges of the footplate.	
	Always sit fully back in the chair when the stairlift is in motion.	
	Demonstrate the 'normal' noise that a stairlift will make in operation.	
Remote control	How to call and send the stairlift. The Simplicity can be parked anywhere on the stairs and will continue to charge.	
Folding the stairlift	How to fold and unfold the stairlift.	
	The stairlift should be folded when not in use.	

Feature	Explanation	Done?
Operating the swivel	How to operate the swivel.	
	Never swivel the seat whilst the stairlift is in motion.	
	Never remove the seat belt until the chair is swivelled.	
	Never dismount the chair unless the seat is in a locked position.	
	Never dismount the chair whilst the stairlift is in motion.	
Diagnostic codes	Show the section in the user manual about self help, using the fault codes and the location of the display on the lift.	
Reporting a fault	What number should the customer call and what information do they need to have available when they call.	
Emergency hand winding	When should this be done (overrun, with keyswitch off and power on).	
	How to report a stairlift that has overrun repeatedly.	
Trapped articles	Reverse the stairlift away from the trapped article and remove the item before use.	
Other warnings	Never allow more than one person to use the stairlift at any one time. The maximum carrying capacity is 140kg (22 stone/308lb).	
	The stairlift is designed for carrying people only.	
	NEVER allow children to play on or with the stairlift.	
	NEVER allow water to come into contact with the components in the stairlift. If you have to transport liquids DO SO WITH CARE.	
	NEVER place objects in or on the track, or leave objects on the stairs, where they could come into contact with the stairlift in operation. Your stairlift is fitted with sensitive side edges and undertray on the footplate, which will automatically stop the stairlift if it detects any obstructions.	
	NEVER use the stairlift in a standing position.	
	Maintenance and repairs should only be undertaken by a qualified engineer to maintain the validity of the warranty.	
	Under no circumstances attempt to repair or re-site the stairlift yourself.	
Servicing	Recommend that the stairlift is serviced by a qualified engineer after 12 months and every 12 months after that.	
Cleaning	Turn the lift off using the key switch and clean with a damp, not wet, lint free cloth and a small quantity of washing up liquid.	
	Do not use abrasive cleaners, bleach or solvent based cleaners as they can damage the stairlift.	

Maintenance

Items required:

- Lubricant – petroleum jelly
- Cleaning materials

Tools required:

- None

- 1 Lubricate the rack with a small quantity of petroleum jelly:
 - a Apply a small amount of petroleum jelly at 4 equally spaced points along the track in the rack recess (**Figure 69**).
 - b Run the lift up and down the track several times to distribute the lubricant.
- 2 Check all of the safety features on the lift as described in the 'Testing' section of the installation manual.
- 3 Check that the lift still stops flush with the top step and adjust as necessary – **see page 20**.
- 4 Sit on the lift and ride it up and down the stairs several times:
 - a Listen for any unusual noises.
 - b Check for poor ride quality, especially across the spliced joint.
- 5 Clean the track.
- 6 Clean the seat.
- 7 Clean the power pack.

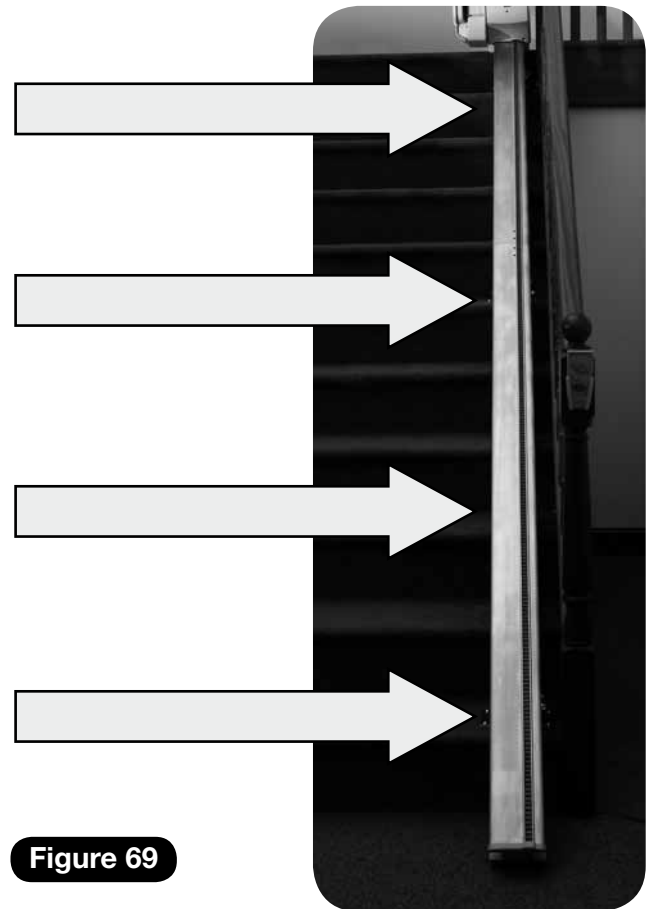


Figure 69

Slide Track fault finding

Symptom: Intermittent operation

- Cause:** Copper strip not flat – brush ‘bouncing’.
- Solution:** Flatten or replace copper strip on comms busbar.
- Cause:** Comms line dirty/non-conductive.
- Solution:** Clean/polish comms strip.
- Cause:** Bad earth connection between MS125 & 126EL PCBs.
- Solution:** Check power pack earth copper connection is good for full travel of lift (visual down track).

Symptom: Lift stops and display blanks. Lift will not drive.

- Cause:** Thermal fuse overheated.
- Solution:** Turn the lift off for 30 seconds and then turn it back on.
- Cause:** Short on comms circuit.
- Solution:** Find short between track and comms and rectify.

Symptom: Lift shuts down when loaded on to track.

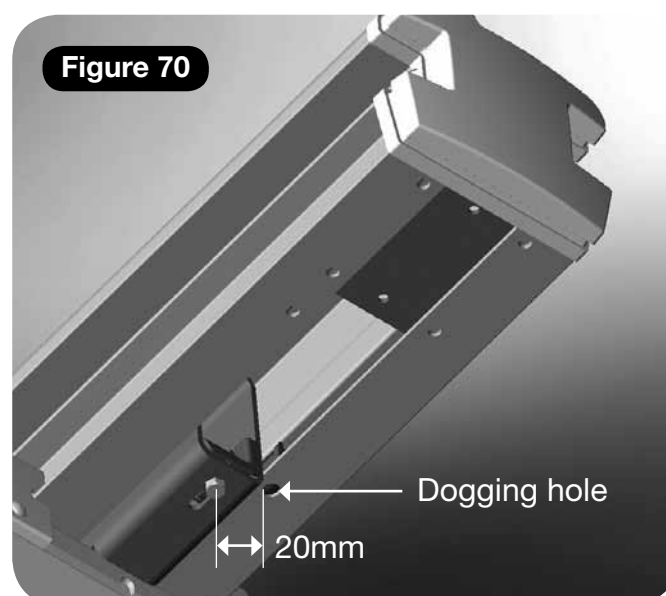
- Cause:** Short on comms brush to track.
- Solution:** Use insulated brush loading tool.

Symptom: Power swivel will not operate.

- Cause:** Incorrect top limit reed switch set up on Slide Track.
- Solution:** Adjust the limit switch position (**Figure 71**).

Top limit reed switch adjustment

- The power swivel needs to get a signal from the reed switch inside the rail to work. Therefore the reed switch may need moving upward to the magnet housed inside the hollow rolled section (captured by M6 hex head screw facing downward on the fix foot).
- The centre of the reed switch should be approximately 20mm away from the centre of the magnet.



- There is a dogging hole that the reed switch locates in for a reference. This can be overridden by depressing the inside of this hole to depress the catch, and then slide the reed switch up the channel to get a signal.

Diagnostic codes



Code:
None

Meaning:
No display.

Description:

Telephone fault finding action:

Ask client to press toggle and see if display comes on. Ask if main power switch on the lift is turned on. If does not correct fault – send engineer.

On site fault finding action:

Check batteries. Check display board is working correctly. Check comms circuit for short circuit.



Code:
Okay

Meaning:
Charging.

Description:

Telephone fault finding action:

If no other code is displayed and lift does not drive – are the arms fully down? Ask client if 8 or 9 show in the display when the toggle switch is activated – if no send an engineer.

On site fault finding action:

Send engineer to check toggle and arm circuit.



Code:
0

Meaning:
Final limit activated.

Description:

Keyswitch, seat swivel, OSG or overrun activated.

Telephone fault finding action:

Ask client to ensure keyswitch is on and seat is fully swivelled to drive position. If this does not correct the fault – send engineer.

On site fault finding action:

Test each item in turn to determine fault.



Code:
1

Meaning:
Requires charge.

Description:

Telephone fault finding action:

Ask client to drive lift to charge contacts – if 'Okay' code does not show send engineer.

On site fault finding action:

Drive lift to charge contacts. Check charging circuit if 'Okay' code not displayed.



Code:
2

Meaning:
Off charge.

Description:

Telephone fault finding action:

Ask client to drive lift to charge contacts – if 'Okay' code does not show send engineer.

On site fault finding action:

Drive lift to charge contacts. Check charging circuit if 'Okay' code not displayed.



Code:
3

Meaning:
Top stop – Right hand
Bottom stop – Left hand.

Description:

End limits activated.

Telephone fault finding action:

Ask client to tap trunnion guards in case they are stuck. If this does not correct the fault – send engineer.

On site fault finding action:

Check end limit circuit and trunnion guards.



Code:
4

Meaning:
Top pressure – Right hand
Bottom pressure – Left hand.

Description:

Safety edge (up/down direction) activated – footplate.

Telephone fault finding action:

Ask client to tap footplate edges. If this does not correct the fault – send engineer.

On site fault finding action:

Check footplate leading edge.



Code:
5

Meaning:
Bottom stop – Right hand.
Top stop – Left hand.

Description:
End limits activated.

Telephone fault finding action:
Ask client to tap trunnion guards in case they are stuck.
If this does not correct the fault – send engineer.

On site fault finding action:
Check end limit circuit and trunnion guards.



Code:
6

Meaning:
Bottom pressure – Right hand.
Top pressure – Left hand.

Description:
Safety edge (down/up direction) activated
– footplate, underpan.

Telephone fault finding action:
Ask client to tap footplate edges. If this does not
correct the fault – send engineer.

On site fault finding action:
Check footplate bottom and downside and chassis
underpan.



Code:
7

Meaning:
Low voltage.

Description:
Batteries approaching critical level.

Telephone fault finding action:
Ask client to drive lift to charge contacts – if ‘Okay’
code does not show send engineer. If the lift will not
drive – send engineer.

On site fault finding action:
Drive lift to charge contacts. Check charging circuit if
‘Okay’ code not displayed. If lift will not drive replace
batteries and check charging circuit.



Code:
8

Meaning:
Up direction – Right hand
Down direction – Left hand.

Description:
Shows when toggle switch is activated in up/down
direction.

Telephone fault finding action:
None.

On site fault finding action:
None.



Code:
9

Meaning:
Up direction – Left hand.
Down direction – Right hand.

Description:
Shows when toggle switch is activated in down/up
direction.

Telephone fault finding action:
None.

On site fault finding action:
None.



Code:
A

Meaning:
Hinge open.

Description:

Telephone fault finding action:
None.

On site fault finding action:
None.



Code:
b

Meaning:
Switch active.

Description:
A switch is active at power on i.e. Toggle up,
Toggle down, IR up IR down or Learn.

Telephone fault finding action:
Send engineer.

On site fault finding action:
A short circuit has occurred on toggle circuit
– check circuit.



Code:
C

Meaning:
IR Address fail.

Description:
The IR Address (Dip switch) does not match.

Telephone fault finding action:
Send engineer.

On site fault finding action:
Re-program handsets.

Appendix 3



Code:
d

Meaning:
Relay not open (stopped).

Description:

The main power relay is welded closed.

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace main board.



Code:
E

Meaning:
Relay not closed.

Description:

The main power relay did not close.

Telephone fault finding action:

Send engineer.

On site fault finding action:

Check battery voltage and replace if necessary, otherwise replace main board.



Code:
F

Meaning:
Brake semi-conductor failed.

Description:

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace main board.



Code:
g

Meaning:
Brake not connected.

Description:

Telephone fault finding action:

Send engineer.

On site fault finding action:

Check brake.



Code:
H

Meaning:
Relay not open (Pre delay).

Description:

The main power relay is closed early.

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace main board.



Code:
J

Meaning:
Hinge interlock switch error.

Description:

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace hinge interlock roller switch.



Code:
L

Meaning:
Current limit exceeded.

Description:

Telephone fault finding action:

Check client understands loading limits.
Send engineer if persistent fault.

On site fault finding action:

Check motor and track for obstructions.



Code:
n

Meaning:
Half speed.

Description:

Telephone fault finding action:

Send engineer if permanently showing.

On site fault finding action:

Check reed switches and dipswitch settings.
Check battery voltage.



Code:
o

Meaning:
Default Eeprom.

Description:

The Eeprom has been reset to its default value (Flash Failure).

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace main board.



Code:
P

Meaning:
PS no reply.

Description:

Powered swivel did not respond.

Telephone fault finding action:

NOT YET ACTIVE.

On site fault finding action:

NOT YET ACTIVE.



Code:
r

Meaning:
No charge current.

Description:

Activated.

Telephone fault finding action:

Check that power supply is switched on from mains supply. If yes send engineer.

On site fault finding action:

Check power supply.



Code:
U

Meaning:
No float indication V1.19 software and later only.

Description:

Faulty power supply.

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace power supply.



Code:
y

Meaning:
Software error.

Description:

The main control board has a software fault.

Telephone fault finding action:

Send engineer.

On site fault finding action:

Replace main board.



Code:
N/A

Meaning:
Over current.

Description:

N/A.

Telephone fault finding action:

Send engineer with a service exchange power pack.

On site fault finding action:

Replace power pack.



Code:
N/A

Meaning:
Lift is in "sleep mode" to conserve battery power.

Description:

Telephone fault finding action:

None.

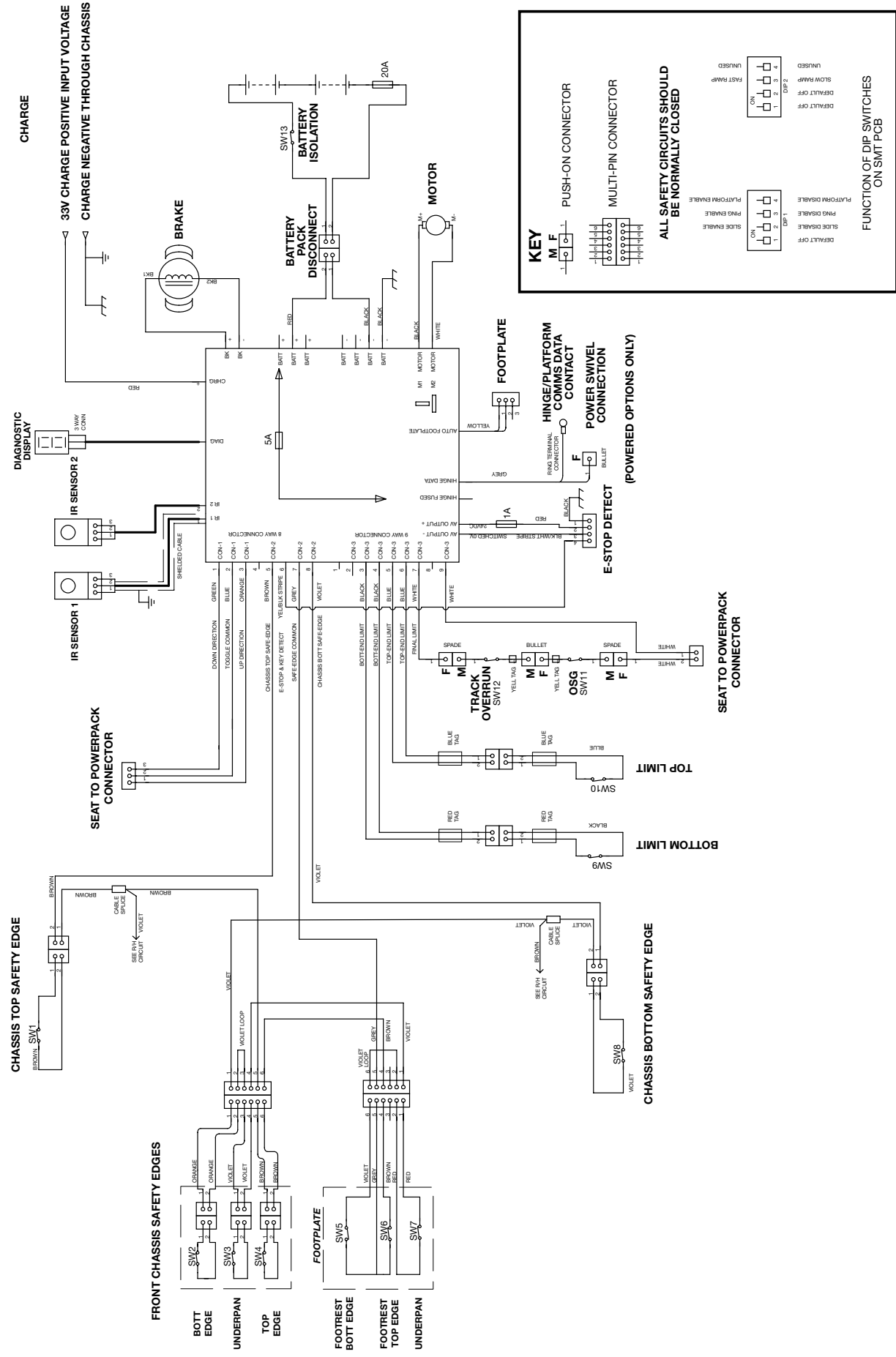
On site fault finding action:

Press toggle or handset button to wake lift.

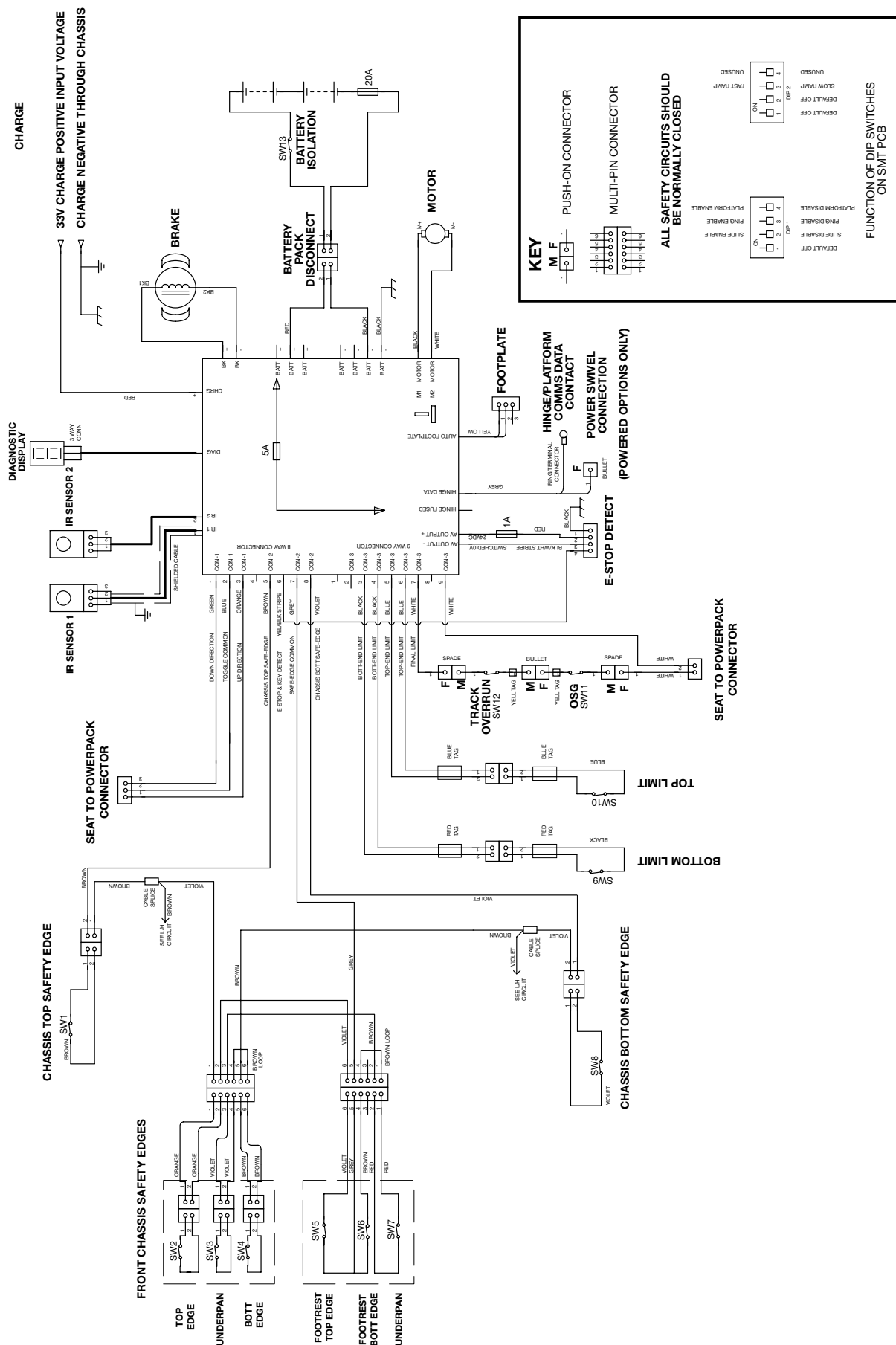
Note: If the display is showing anything but the diagnostic codes listed it requires resetting.

Drive the lift off the charge contacts.
Turn the main switch on the unit off for 10 seconds and then back on.

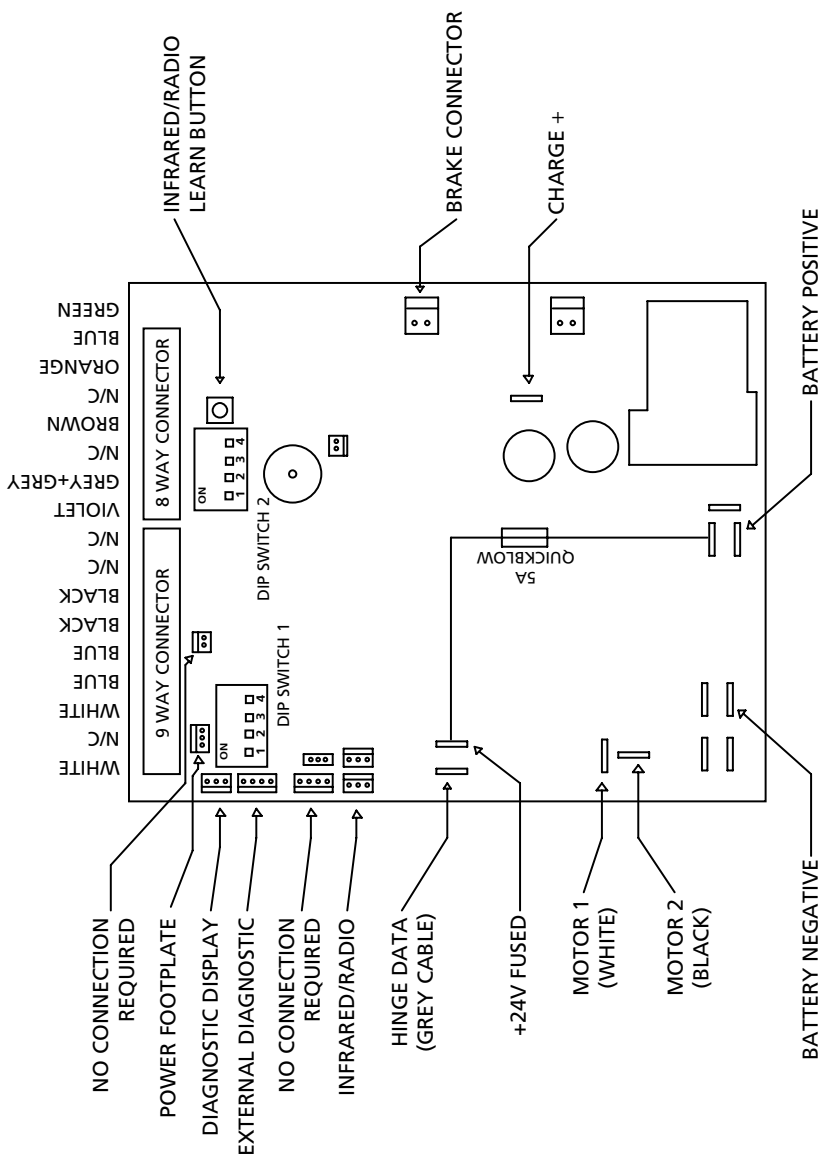
Simplicity+ block schematic – left hand stairlift – MS125



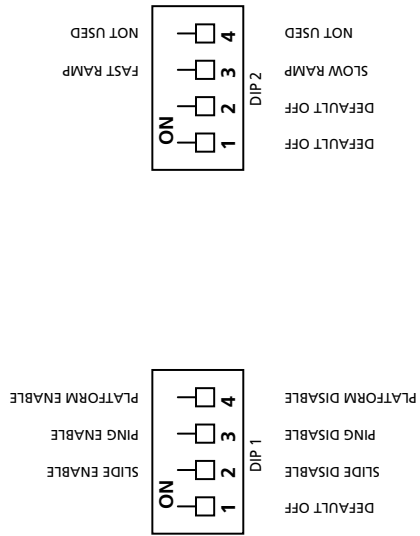
Simplicity+ block schematic – right hand stairlift – MS125



Simplicity+ DIP settings MS125 LH & RH standard & auto swivel



DIP SWITCH SETTING MS125



POWER SWIVEL DIP
SWITCH SETTING CSE126

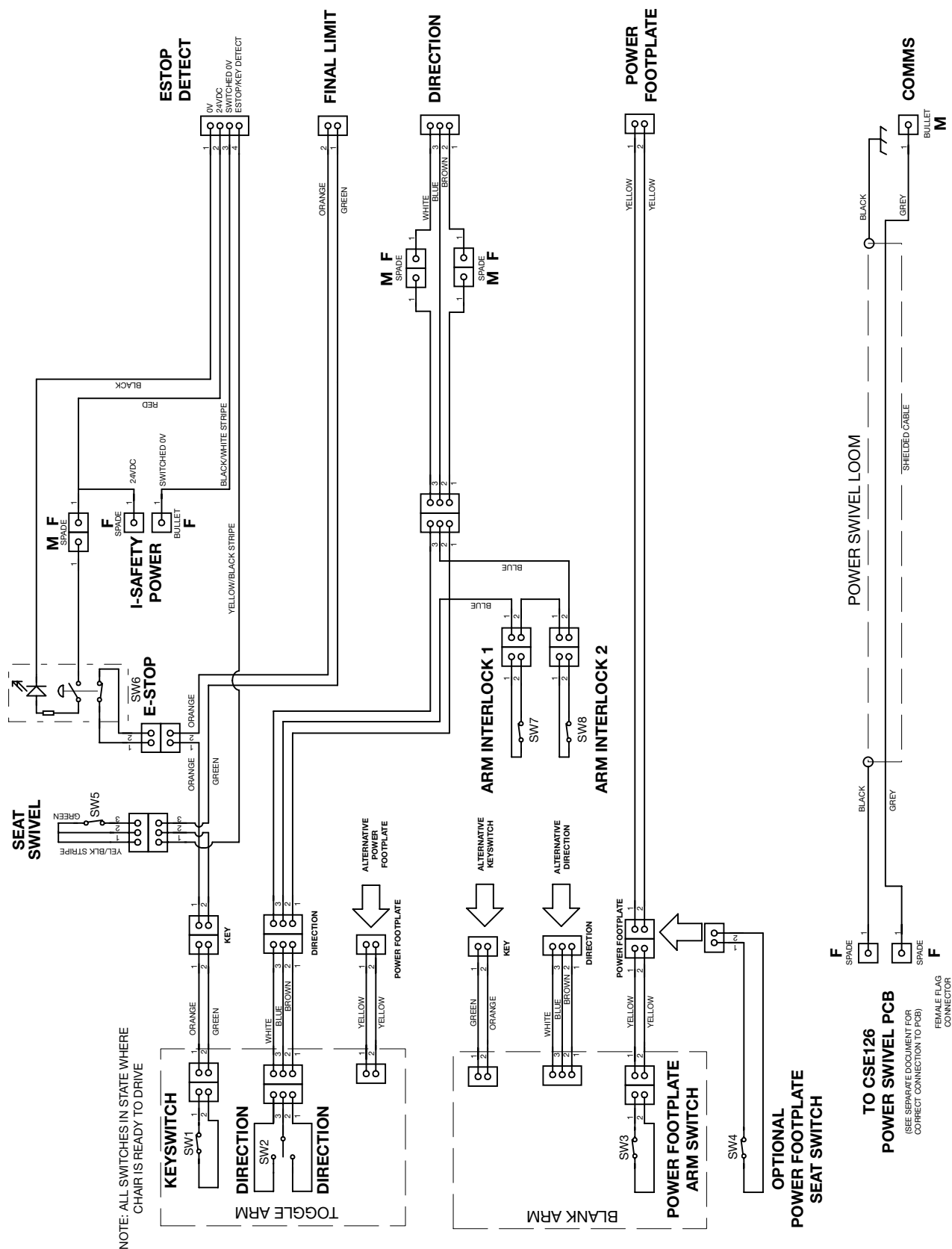


THIS SETTING WILL ENABLE POWER SWIVEL MODE

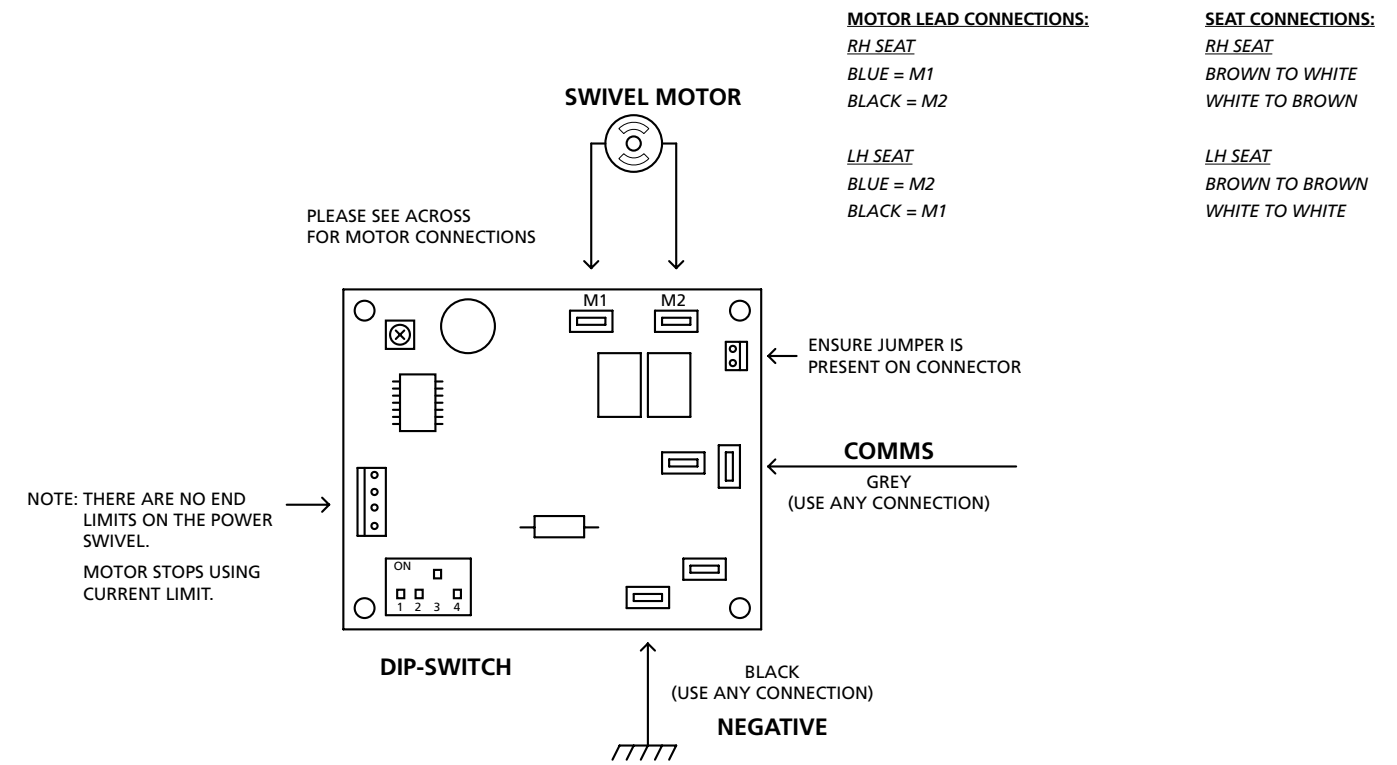
**IF ANY DIP SWITCHES ARE CHANGED,
PLEASE TURN OFF LIFT, WAIT 10 SECONDS,
THEN POWER THE LIFT BACK ON.**

**FOR A RIGHT HAND SEAT, THE TOGGLE DIRECTION
MUST BE CHANGED OTHERWISE THE LIFT WILL
TRAVEL IN THE WRONG DIRECTION. THIS IS DONE
BY CHANGING OVER THE WHITE AND BROWN
WIRES ON THE MAIN SEAT LOOM.**

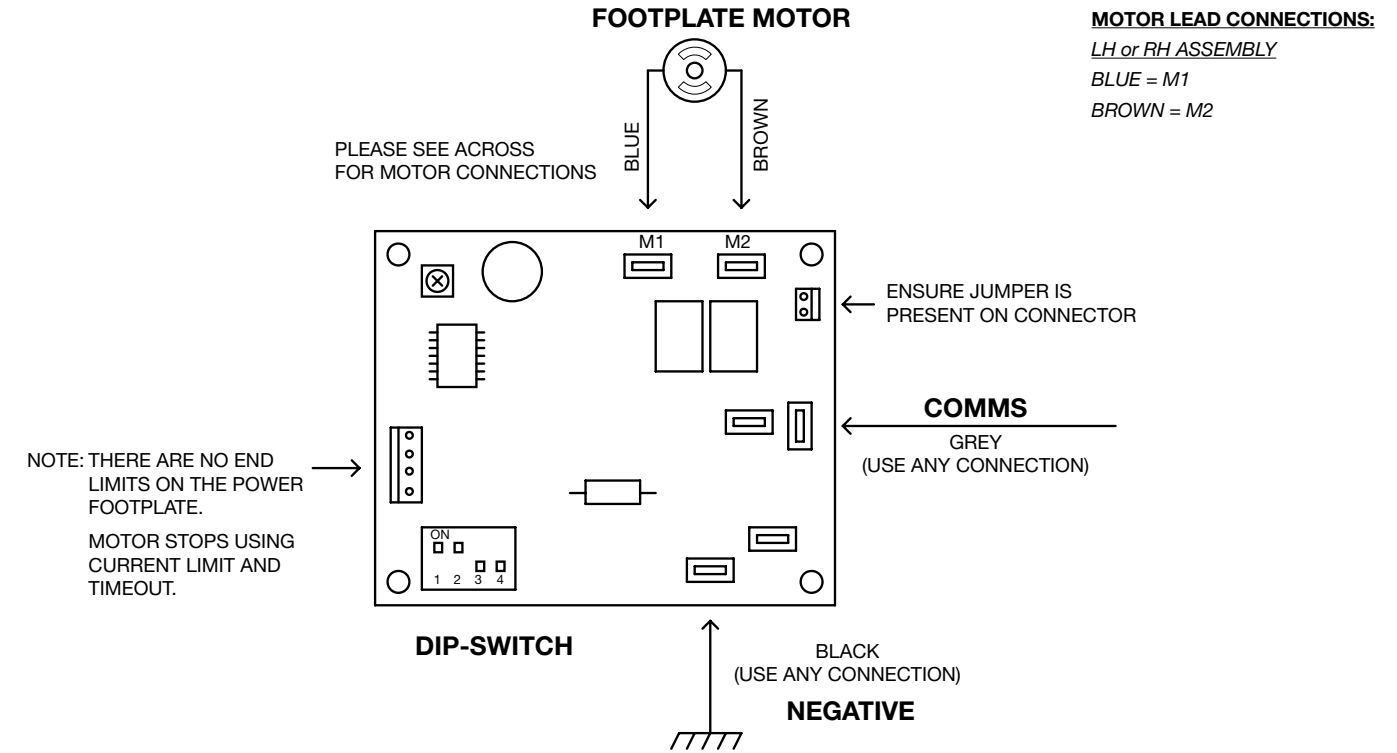
Minivator smart seat schematic



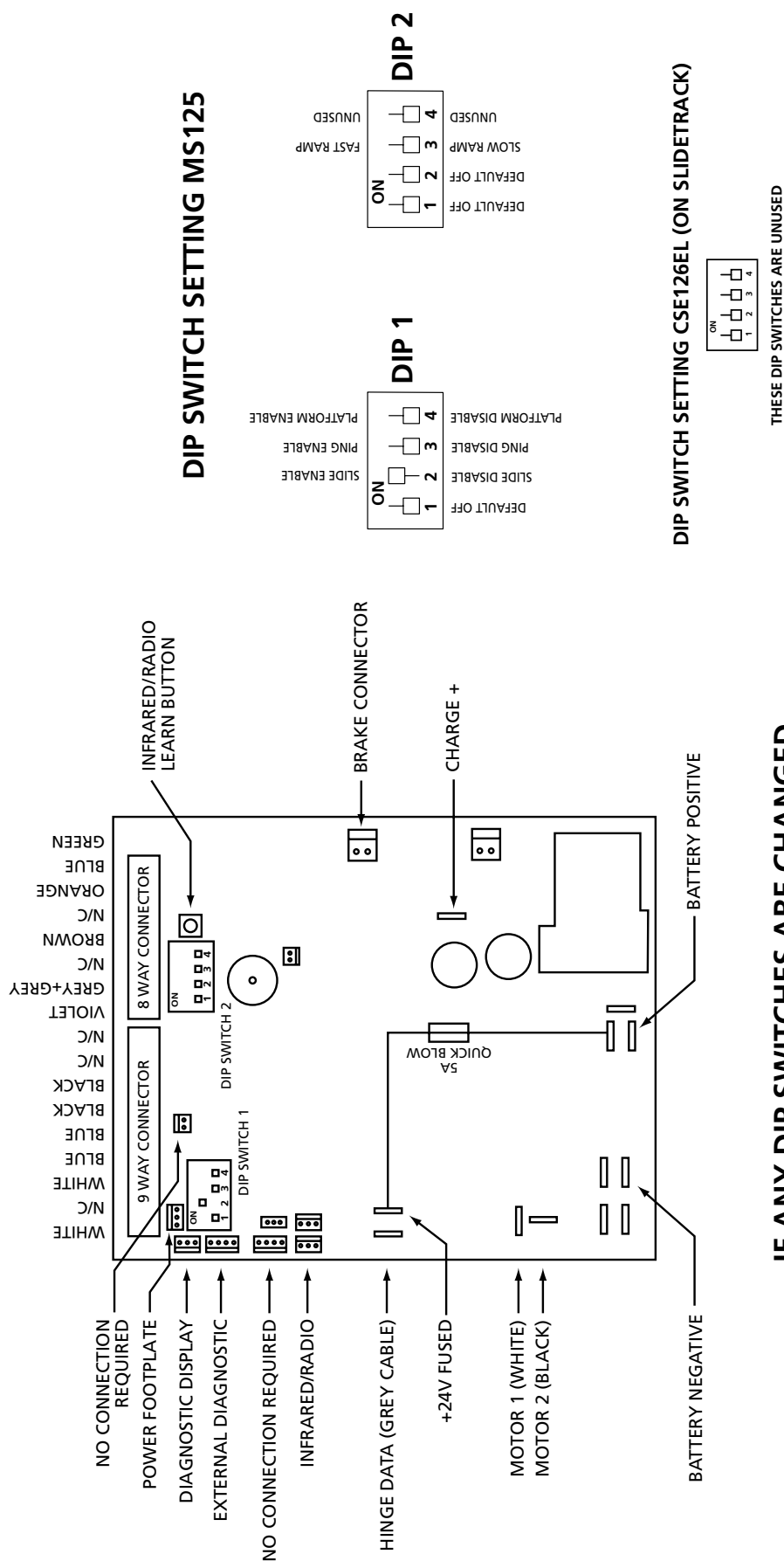
Smart seat power swivel PCB connections



Smart seat power footplate PCB connections

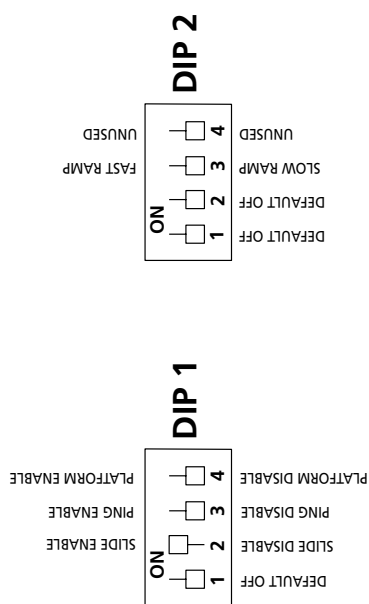


Simplicity+ DIP settings MS125 LH & RH slidetrack

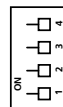


**IF ANY DIP SWITCHES ARE CHANGED,
PLEASE TURN OFF LIFT, WAIT 10 SECONDS,
THEN POWER THE LIFT BACK ON.**

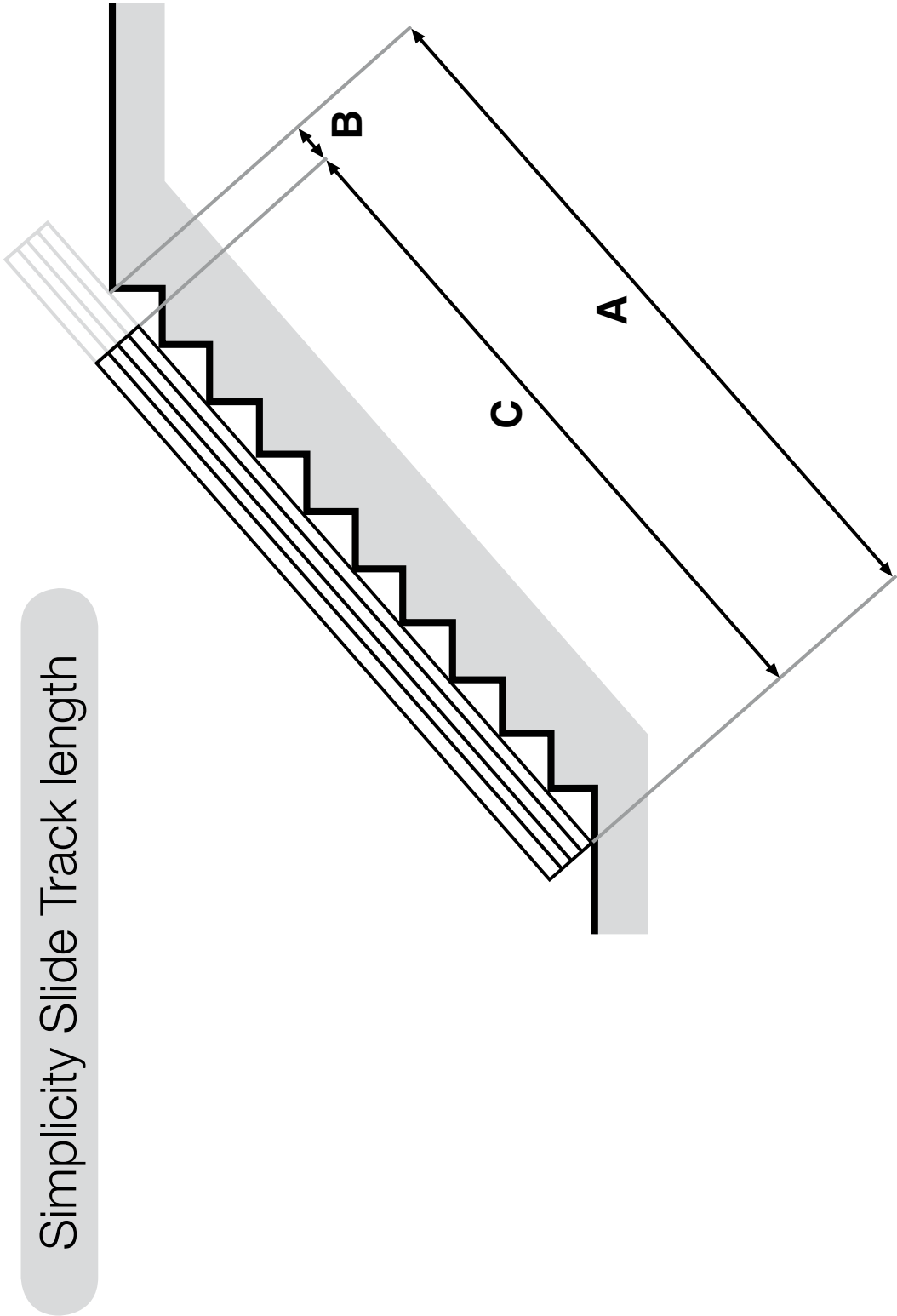
DIP SWITCH SETTING MS125



DIP SWITCH SETTING CSE126EL (ON SLIDETRACK)



THESE DIP SWITCHES ARE UNUSED

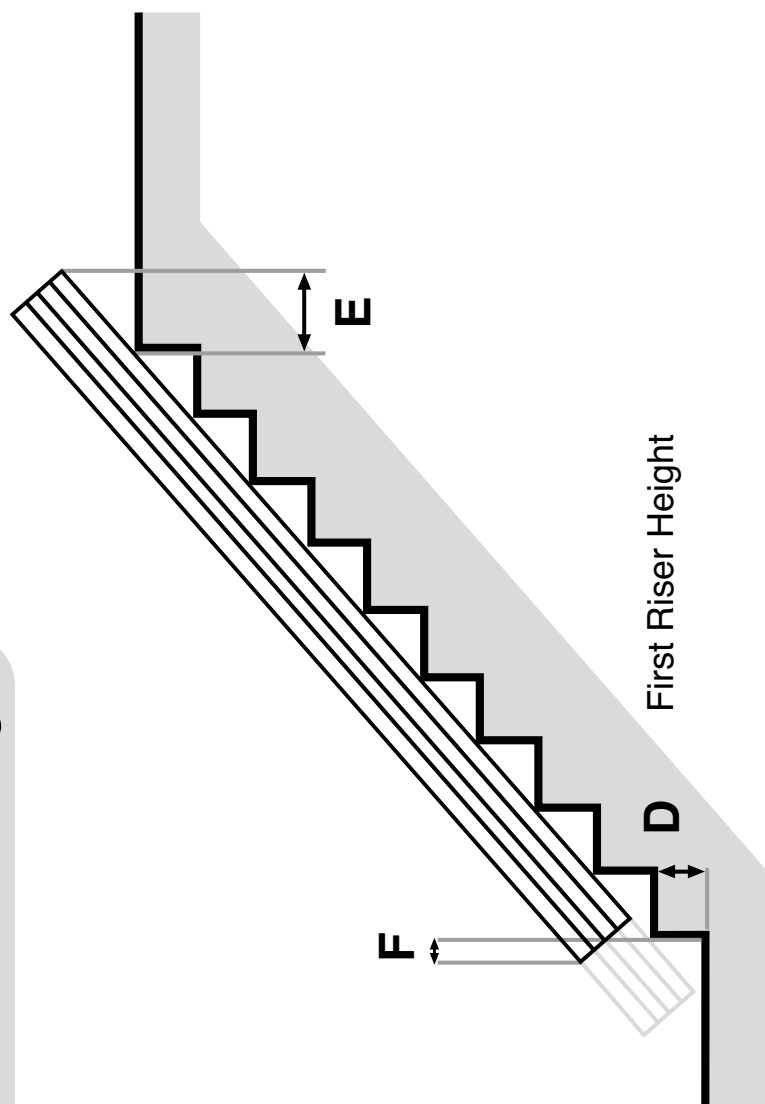


	Angle	37°	38°	39°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°
Track reduction from nose values for a standard finish	B	81	81	80	79	78	77	76	75	74	72	71	70	68	66

A (top nose to floor mm) minus B (track reduction from nose) equals C (cut track length)

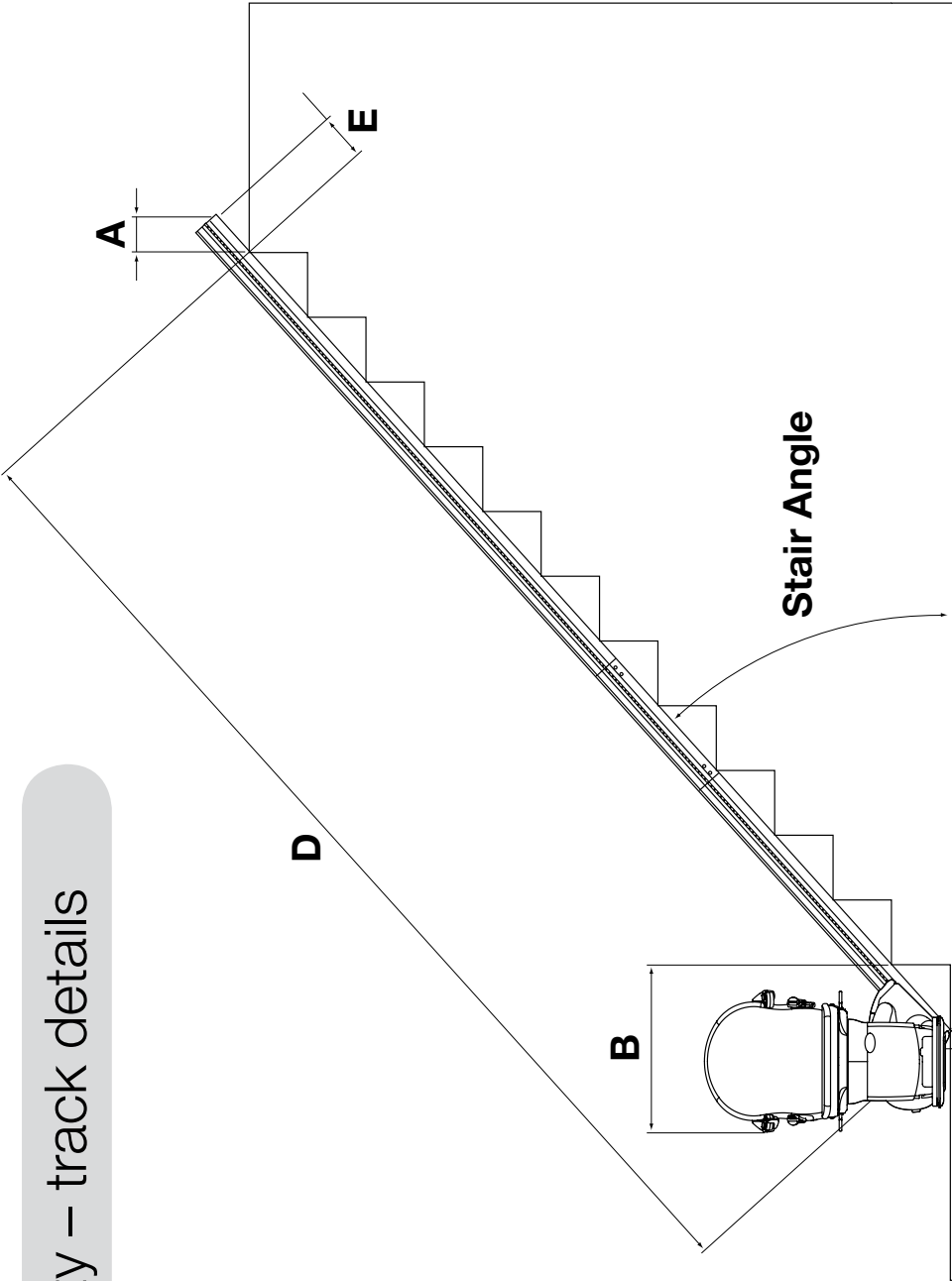
Example: Dimension A = 3250mm, Angle = 45° (3250 - 74 = 3176)
Final cut track length = 3176mm

Simplicity Slide Track overhang



	Angle	37°	38°	39°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°
First Riser Max Height (mm) for zero bottom intrusion	D	162	164	166	168	169	171	172	173	173	174	174	173	173	172
Top Overhang (mm) at given staircase angle	E	213	211	209	207	205	202	200	198	195	193	190	187	185	182
Bottom Intrusion (mm) at given angle assuming 200mm 1st riser	F	51	46	42	38	35	32	30	28	27	26	25	24	24	24

Simplicity – track details



	Angle	37°	38°	39°	40°	41°	42°	43°	44°	45°	46°	47°	48°	49°	50°
Horizontal Track Overhang*	A	141	141	140	139	138	138	137	136	135	135	134	133	132	132
Ground Lift Parking Space	B	752	750	749	748	746	745	744	742	741	740	738	737	736	734
Ground Track Intrusion	C	352	349	346	343	340	336	333	330	327	324	321	318	315	312
Top Nose to Ground	D														
Track Extension from Nose*	E	178	180	182	184	186	189	191	193	195	198	200	202	204	206
Track Cut Length (D+E)	F														

Example		Angle	45°
A			135
B			706
C			327
D			3250
E			195
F			3445

*Minimum figures – when top intrusion is critical.



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